The Business Journal of Vegetation Management October 1979/$1.25

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Reclamation Contractors Keep Waiting for a Boom

The Best Landscapes of 1979: Project Reports

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VIEWPOINT

by Bruce F. Shank, Editor

Coming in 1980

At this time each year, trade magazine editors know basically what the magazine will contain in the coming year, or they should. They plan that far ahead for two reasons; to allow ample time to prepare and arrange material, and to display to potential advertisers that the publication makes an effort to serve its readership. Since advertisers plan their promotion budgets in the fall, magazines must convince them of their worth at that point.

Since I've done all this planning, I'd like to share it with you.

Weeds Trees & Turf will be 18 years old in 1980. The markets it serves and the magazine have changed over those years. To keep aligned to the progress of the Green Industry, Harvest Business Publications Publishing Director Richard Foster decided in 1975 that certain markets needed special attention, more than the attention *Weeds Trees & Turf* could supply on a regular basis. Hence, the acquisition of *Golf Business* in 1975, the creation of *Lawn Care Industry* in 1977, the introduction of a newsletter especially for the reclamation industry in 1978 (*The Land Reclamation Report*), and now the birth of *Nursery Product News grower and retailer editions*.

During this time *Weeds Trees & Turf* has provided total industry coverage tapping staff specialists for the latest on their markets. If you need to make some distinction, you can say WTT is more technical than the individual market publications.

As a result, we have more persons covering the Green Industry markets than any other publishing company. Our editors are closer to their markets and know when to change to suit your needs better.

As for WTT, we have worked hard to improve coverage of ornamental and tree markets, while maintaining high standards with turf areas. Next year this will become most obvious. In addition to turf coverage, we will have monthly articles on plants for landscapes, and landscape design tips. Coverage of parks and municipal property management will be doubled or tripled. Basics of care for trees and ornamentals will increase as well as material on soil science.

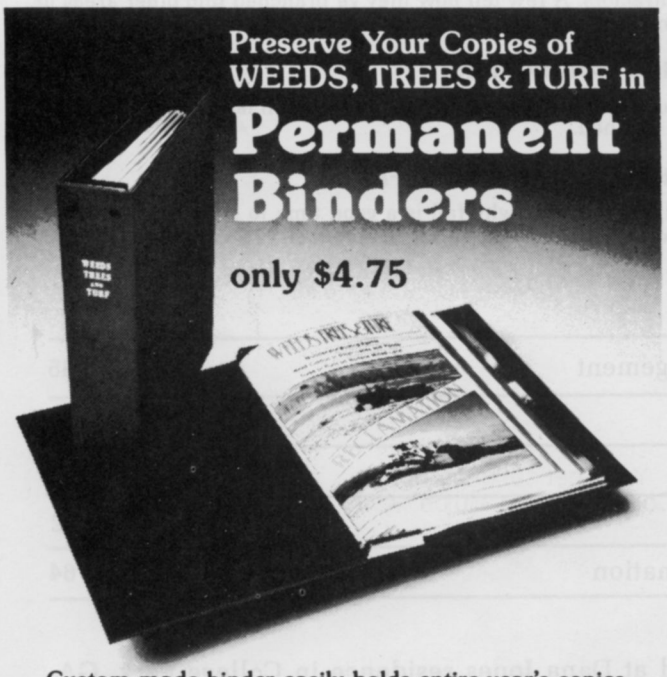
Every reader will find valuable material on his field in *Weeds Trees and Turf* in 1980. We noted that the golf course superintendent would like to do more of his own landscaping. We noted that soil science is the most important factor in reclamation. We noted that good basic landscape designs are helpful on jobs too small to employ a landscape architect. We noted that mechanization and efficient turf and tree management are critical to parks supervisors and municipal service department directors because of inadequate budgets. We noted that some basics of pruning landscape materials are not well known. We noted that turf practices once reserved for the golf course are applicable to athletic fields and other turf areas such as parks, cemeteries, and industrial grounds.

These changes and more were considered in planning next year's *Weeds Trees & Turf*. If there are subjects you would like us to research and publish, please write me.

As I see it, there are four things you can do to insure quality in your service. Subscribe to *Weeds Trees & Turf* and the particular publications we have especially for your market; hire good, trained personnel; join and attend associations for your industry; and utilize extension services available to you.

We are striving to do our part well. Let me add that extension personnel are also working hard to serve us. It's tough to keep a good attitude when government funding is continually in question. Please support them in every way you can. Write your state and federal representatives a note periodically indicating your support of extension experts. Attend turf and tree field days sponsored by extension.

Quality of service becomes very important when money gets tight. In 1980, we should keep quality high.



Custom-made binder easily holds entire year's copies of WTT magazine. Green binder with gold embossed logo protects your magazines and gives your library a neat appearance. Magazines can be inserted as they are received. Annual index in December issue makes it easy to find information you need quickly . . . Send check or money order to:

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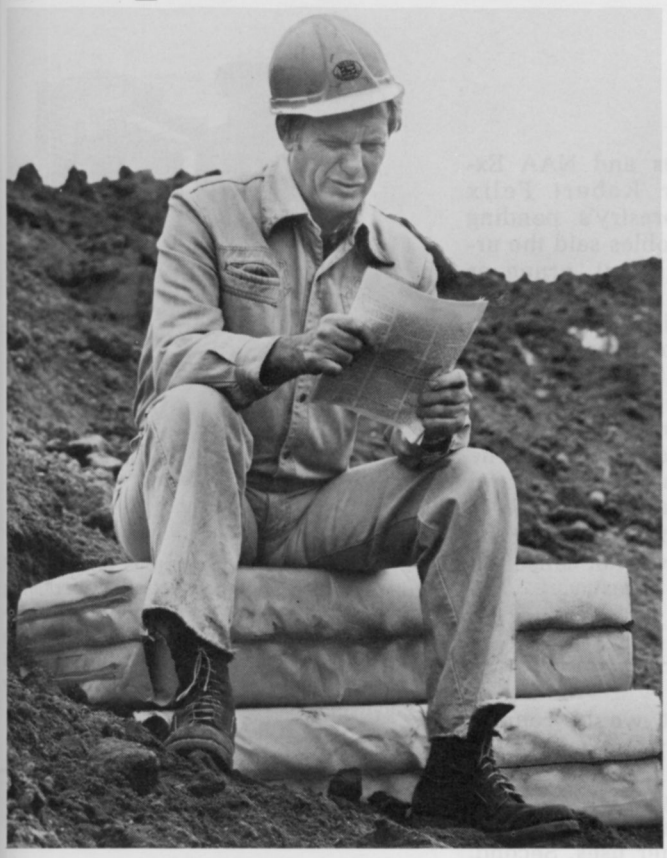

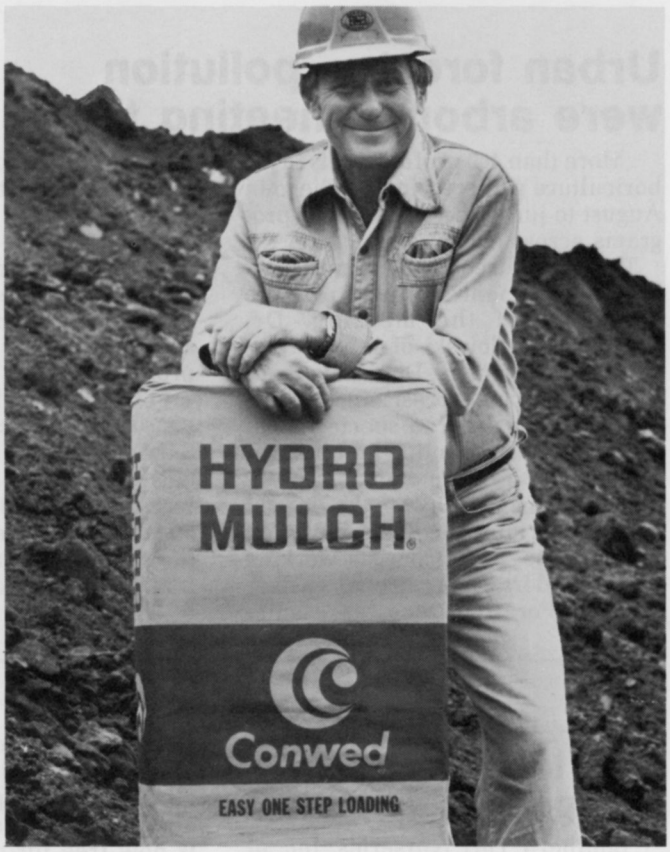

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GREEN INDUSTRY NEWS

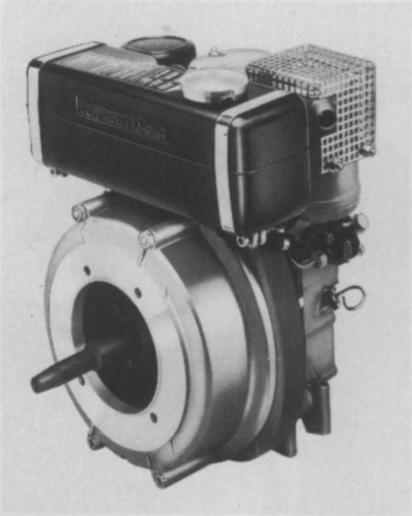
Urban forestry, pollution were arborist meeting topics

More than 400 professionals in arboriculture gathered in San Diego in August to judge the state of tree programs across North America.

The shade tree's status in the urban environment seemed to be the big topic of the meeting, Dr. Theodore Kozlowski of the University of Wisconsin Department of Forestry discussed resistance to urban pollution by tree species. Acid rains dropping pollution hundreds of miles from the source present problems national in scope. Kozlowski said, "We must develop pollution resistant trees by arborists working with breeders on a regional basis."

USDA Forest Service representative Robert Nobles and NAA Executive Director Robert Felix debated urban forestry's pending implementation. Nobles said the urban forester can't plant, prune or select shade trees. Nobles asked for assistance in compiling a list of consulting arborists for urban forestry programs in the U.S.

Felix stressed there is no control or consistent arrangement by The Forest Service across the country. "The caliber of urban foresters and forestry programs varies from state to state," he said. Felix questioned why the private sector was not consulted for input on urban forestry.



Briggs & Stratton Corp. has added small diesel engines to its product line by acquiring Faryman Diesel of West Germany. The company plans to market and service a complete line of small diesel engines in the US and other areas not previously served by Faryman.

RECYCLING

Brew feeds the land in experimental project

Southern Turf Nurseries, Inc. of Tifton, Ga. has combined efforts with Anheuser-Busch, Inc. to grow turf adjacent to Anheuser-Busch's Jacksonville, Fla., brewery by utilizing liquid brewery waste streams high in nutrients.

The turf is being grown on a 300-acre site about one mile north and adjacent to the brewery on property owned by Anheuser-Busch.

John Mueller, brewery plant manager, says that since starting on May 11, the project has substantially reduced loadings sent to the Jacksonville sewage treatment plant. About one million gallons daily of almost three million gallons of liquid wastes are now being diverted to the turf farm.

Director of Environmental Engineering and Resources of Anheuser-Busch, Robert R. Imsande, says from that a conservation standpoint, the Jacksonville turf farm has twin benefits. "First, it would require substantial energy to make the amount of fertilizer for turf growth which we are providing from an already existing source. This energy is now free for other uses. Second, since brewery waste streams are over 95 percent water, we are practicing water conservation. This water is going directly back to the ground rather than requiring energy intensive treatment at municipal waste treatment facilities."

It makes good sense, Imsande says, to put the brew's natural ingredients — hops, malt, rice, yeast, and corn — back into the ground where they can replenish the soil.

LAWN CARE

Industry leaders establish ethics code

The Professional Lawn Care Association of America's executive committee has adopted a code of ethics and symbol of good practice. It will be presented to the public via the press, local advertisements, and use of logos on trucks, stationery, and business premises.

"This newly formed association is acting to let the public know what to expect from qualified service companies," says PLCAA President Jerry Faulring of Professional Turf Corp./Hydro Lawn.

Membership in the association requires a principal owner/manager's signature indicating compliance with the established code of ethics.

"There may be companies in the industry that abide by good business conduct that do not become members," states Glenn Bostrom, executive director. "The important point is that by their membership, companies do agree to support the code of ethics, standards, and objectives of this association."

Some of the guidelines each PLCAA member agrees to follow

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1812	FRUIT TREE STAKES		@ $	$
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			TOTAL ORDER	$

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A bigger little-big tractor.

Introducing, a new John Deere diesel tractor with a 33-PTO-hp turbocharged engine

Two years ago, John Deere introduced the 22-PTO-hp 850 and the 27-PTO-hp 950 diesel tractors.

They were simple, reliable, sensibly-priced tractors. And people loved them.

At John Deere, we called them our "little-big" tractors because they were big enough to handle many landscaping and construction jobs, yet small enough so they were economical to buy and operate.

And now along comes another one: the new 33-PTO-hp* 1050.

Optional mechanical front wheel drive pulls you through the toughest spots with ease.

It's a little bit bigger and more powerful than the other two, and it has some interesting new features.

But the principle is still the same. A simple, basic tractor at an affordable price.

Features

Like the other "little-big" tractors, the 1050 has a number of big tractor features. Liquid-cooled diesel engine. 8-speed transmission. Differential lock. 3-point hitch. Adjustable wheel tread.

It also has some features the others don't have.

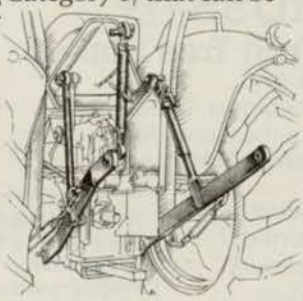
For instance, the 1050 is the only tractor of its size to have a turbocharged engine.

With a turbo, you get greater power in a smaller package. Plus fewer emissions. And smoother, quieter performance.

Turbocharging gives you more power, better fuel economy, a cleaner, quieter ride.

The 1050 also has a continuous-running 540-rpm PTO that keeps your implements running even while the tractor is standing still.

A "load-and-depth-sensing" 3-point hitch (Category 1) that can be set to compensate for variations in soil density. And both the 1050 and 950 offer optional mechanical front-wheel drive to give you sure-footed traction in almost any terrain or ground condition.



Load-and-depth-sensing 3-point hitch maintains constant depth when working with ground-engaging tools.

Attachments

Of course, one of the big reasons for buying a John Deere is the variety of tractor-matched attachments that go with it.

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Parts and service

Needless to say, your John Deere dealer is a man you can count on for parts and service. And his inventory of implements is nearly always complete.

So if you're looking for a real workhorse at a sensible price, see the new 1050 at the John Deere dealer nearest you.

Continuous-running 540-rpm PTO keeps implements running at full power even while tractor is standing still.

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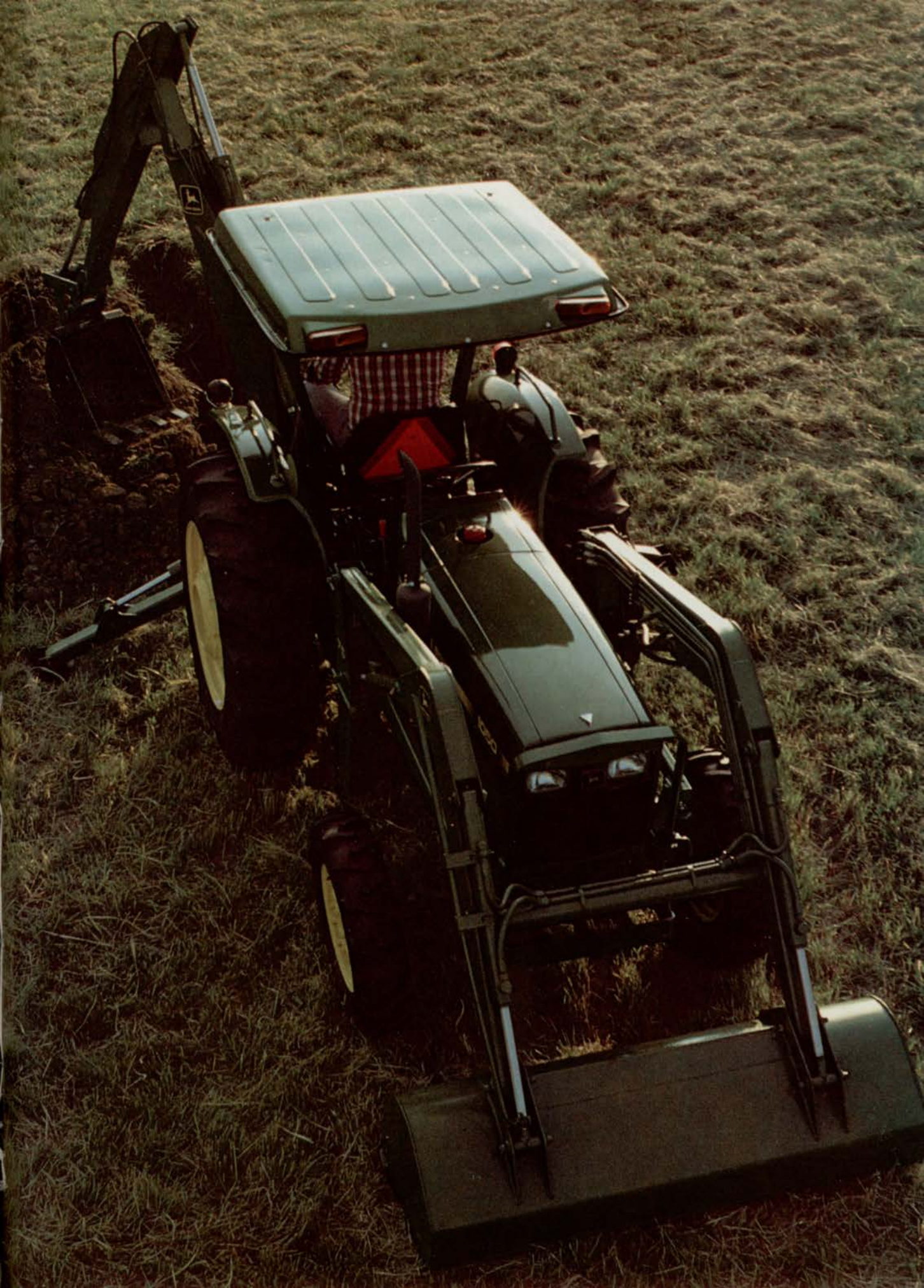

How Roundup® helped Jim Siegfried renovate this fairway in days, without closing it for one minute

Take a good look at this good-looking fairway.

Last fall, Jim Siegfried found a way to clean it up, without tearing it u —at the height of his club's busy seas With Roundup® herbicide by Monsan

Jim is the Greens Superintende at Losantiville Country Club, Cincinnati, where bermudagrass had become a serious problem on the 18 fairway. To control it, Jim applied Roundup once—while the weeds wer still actively growing—right at the start of the Labor Day weekend.

"That's really 'prime time' here," Jim told us. "But after we applied Roundup, we kept the fairway in play the whole weekend, and after. The members played right over it, with no problem."

Since Roundup has no residual soil activity, and won't wash or leach out of treated areas to injure desirabl plants, Jim simply took normal pre-cautions against spray drift—and did worry about damaging desirable vegetation along the fairway.

Even better, he was able to re-seed right into the dying bermudagra only 7 days after applying Roundup—without loss of playing time or inconvenience to the membership.

Reinfestation won't be a big prob lem for Jim, either. He knows that Roundup destroyed the rhizomes of the treated weeds, helping prevent their regrowth.

Jim thinks he'll use Roundup again this year—and apparently some club members hope so, too. "As soon as they saw how good this fairway looks, some of the members started asking when I'm going to do the same for #10, where we have some more bermuda. I'll probably tackle that with Roundup this fall."

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are: to adhere to recognized agronomic principles of turf management; to maintain a reputation for fair and honorable conduct in relations with customers, employees, and suppliers; and to conduct business upon the basis of service to the public and the lawn care industry.

NURSERY

Survey shows raise in nursery wages

A survey of hourly wages and fringe benefits conducted by the Wholesale Nursery Growers of America shows an average 30 percent increase in wages for both seasonal and year-round workers over the past three-and-a-half years.

Hospital benefits have changed only slightly since 1974. Eight percent fewer skilled seasonal employees are covered by a plan, while more seasonal and year-round supervisors have full hospitalization benefits.

A similar pattern exists in life insurance coverage, with supervisors enjoying increases in full coverage. About 60 percent of unskilled seasonal employees receive no benefits in this area, the same as in 1974. Overall, WNGA found that employers tend to cover workers fully or not at all.

On the other hand, the average full coverage in company pension plans has dropped from 32 to 19 percent for seasonal employees, and from 30 to 23 percent for year-round personnel. The newer pension coverage laws appear to be making it too expensive for the small grower to continue at the rate of coverage offered in 1974.

CONFERENCE

Grounds managers to meet in Nashville

Hundreds of delegates representing management of parks, campuses, golf courses, and other large grounds areas will convene Oct. 28-Nov. 1 at the Opryland Hotel, Nashville, Tenn., for the ninth National Institute on Park and Grounds Management.

A concurrent National Turfgrass Conference will offer sessions on all

Landscape Contractor News

Housing starts down, but not badly

As expected, high interest rates on mortgages are moderating new home construction, but not to the degree expected by government and private analysts.

Furthermore, the number of building permits issued in August shows the housing market holding strong into the fall. Both starts and permits were higher than predicted by a Commerce Department report, but lower than 1978.

August starts and permits indicate there will be about 1,790,000 new homes built in 1979, up from the 1,600,000 predicted by the Commerce Department.

Foliage specs goal of Florida group, ALCA

The Florida Foliage Association (FFA), representing growers of interior foliage plant material, and the Associated Landscape Contractors of America (ALCA), representing commercial landscape contractors involved in interior landscape installation work, will collaborate on a unified set of industry specifications for foliage, according to a joint accouncement. Committees representing both organizations will work together on the publication of the Plant Materials Specifications sections of the next edition of the "Guide to Specifications for Interior Landscaping."

The joint activity was initiated following Board approval of FFA expenditures to produce accurate, full-color photographs in the next edition of the book, which has been an ALCA publication until now. The two committees will cooperate fully in the production of the next text, which will be accepted by both groups as the industry standard.

Design-related material in other sections of the new edition will be developed with the active participation of the professional organizations active in interior design — the American Institute of Architects, the American Society of Landscape Architects, the American Society of Interior Design, and the Institute of Business Design — working together with the ALCA and FFA committees.

The next edition of the "Guide to Specifications for Interior Landscaping" will begin development this fall, and is expected to be completed and published in 1981 or early 1982.

Minimum highway landscape standards urged

Landscape groups have submitted written support of proposed changes to the Highway Beautification Act to the Federal Highway Administration which would put highway landscaping on a matched fund basis with states. In the same statement, AAN, NLA, and ALCA urged the Administration to set minimum highway landscaping standards and to redirect efforts to more landscaping and scenic enhancement programs.

Specifically, the statement proposed:

—highway landscaping should be done under separate prime contracts
—all contractors should be prequalified
—performance bond should be required
—pre-bid conferences should be held
—inspection procedures should be more uniform
—outdoor advertising standards should be set.

NLA residential landscape program announced

The National Landscape Association has announced its 10th Annual National Residential Landscape Awards Program.

Entries and information requests should be directed to the National Landscape Association, 230 Southern Building, Washington, D.C. 20005, 202-737-4060

GOVERNMENT UPDATE

Surface mining regulations in jeopardy

Legislation pending in Congress could deal a blow to reclamation contractors and manufacturers of revegetation equipment and supplies. The legislation would return primary enforcement of reclamation regulations to the states and give them more time to meet Federal reclamation guidelines.

The Senate passed a bill (69-26) giving states 12 months to file state plans and delaying Federal lands programs until states have their own completed. A House bill is months from passage and a conference committee will probably be needed.

Congressmen are attempting to lighten the load of tough air quality standards and reclamation requirements on soft coal producers.

Although many states had existing requirements for revegetation, the Federal regulations were expected to cause a boom in reclamation work for outside contractors.

Senate nixes plant services for government

The Senate attached an amendment to the H.U.D. appropriations bill to prohibit any expenditures by the Federal government for plant care or watering services.

The amendment was not included in the original House bill and no solution has yet been reached in conference committee. Known as the Sasser amendment, the cuts could be misconstrued to costs for other horticultural services performed for the government agencies.

Firms may soon get capital back quicker

A bill shortening the length of time for businesses to recover investment capital for modernization and expansion may soon pass both Houses. The Capital Cost Recovery Act of 1979 will establish three classes for capital recovery periods:

Class I: non-residential structures and buildings (ten years)
Class II: all depreciable personal property (five years)
Class III: automobiles and light-duty trucks less than $100,000 (three years)

Farm labor contractors beware of enforcement

National and regional nursery associations are warning members who use migrant or other forms of agricultural labor, to meet standards set by the Farm Labor Contractor Registration Act. Enforcement has reportedly been stepped up and many nurseries could face fines of $5,000 or more according to AAN.

In other action, EPA may study exposure to pesticides by migrant workers. The Department of Labor is expected to ask EPA to handle monitoring and exposure studies relative to migrant workers while the Labor Department provides compliance and enforcement.

Also, a bill has been introduced in the Senate to provide temporary worker visas for 180 days for peak harvest periods. Quotas would be established to limit the number of visas.

AAN objects to USDA plant patents

AAN and the National Association of Plant Patent Owners filed a joint letter to the Secretary of Commerce Juanita Kreps opposing the transfer of plant patent administration from the Department of Commerce to USDA. The letter said under similar reasoning weapons should be patented by the Department of Defense, automobiles through the Department of Transportation, etc.

phases of turf management, including handling of equipment and vegetation, contract maintenance, personnel, and management. A number of sessions are aimed at energy conservation as well as water conservation.

A large display of products and equipment will be featured. There will also be on-site tours of campuses and parks in the Nashville area.

PARKS

Park program will distribute $730 million

More than 100 communities in the United States have applied for federal funds totaling $20 million in matching grants under the Urban Park and Recreation Recovery Program.

Administration of the funds begins October 1 to those cities showing the most critical need for park and recreation aid. Sometime in November or December the second round of funds, totaling $40 to $50 million, will be given. Additional funds will be designated in March, July, and October for 1980 at the same rate and continuing through 1983.

The Heritage Conservation and Recreation Service, a bureau of the Department of the Interior, has been authorized to distribute the funds for the $730 million program, which the President signed into law in November, 1978.

Most of the money, according to program guidelines, should be used for rehabilitation, including remodeling, expanding, or developing existing outdoor or indoor recreation areas and facilities. Projects may include improvements in park landscapes, building, and support facilities, but exclude routine maintenance and upkeep activities.

Some of the funds are for innovation. These are intended for cities who show cost-effective ways of changing physical recreation resources, such as land and buildings, into actual recreation opportunities for neighborhood residents.

There are 368 cities and counties eligible to receive direct matching grants. Landscape contractors and architects, parks maintenance personnel, and anyone wanting to know if his city has applied for a grant, should contact his mayor's office, where all information has been sent.

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PARK SUPERVISORS ADJUST TO FINANCIAL PRESSURES

by John Kerr

Grady Simril (right), president of the Golf Course Superintendents Association of Northern California and turfgrass specialist for East Bay Regional Park District, discusses results of recently seeded field with park manager Jim Stabler (left). A seed mixture of 80 percent tall fescue and 20 percent Manhattan ryegrass was used.

Special toilet trailers for back country campouts eliminate road damage by heavy pumpout trucks servicing out of the way latrines. The trailer carries water, barbecue pits, garbage cans, and two chemical toilets.

"Parks and recreation, to many people, is like motherhood and apple pie," says Roger Landaster, director of research, NRPA. "You really can't be against a park. But when you're in competition with other public services, such as building a school or a park, the school's going to come out on top."

This is the situation many park superintendents and directors face in a time of cut budgets and inflation. They must provide public functions and preserve beauty with limited resources. The energy shortage, which has severely cut use and revenue of state parks, has also greatly increased the demand on local parks. This causes shuffling of park staff and more work for the maintenance crews of parks near urban centers. Since there is less money, crews lose personnel and use more unskilled labor. There is less gas to run mowers and tractors. The problems punch hard at supervisors, but they are fighting back.

"We are doing maintenance for more people- and nature-related things instead of just a nice, aesthetic look," says Bob Kline, operations supervisor for the Hamilton County, Ohio, Park Department. This system in and around Cincinnati has done a study to categorize all of its parks into different animal habitats, such as grasslands, forests, and various secessional stages. "Instead of just letting areas grow to a climax forest or mowing them as grasslands, we are thinning out saplings and maintaining the weedy growth in relation to the type of wildlife we want," Kline says.

Maintenance has been increased because the park has added 5,000 acres, but Kline thinks maintenance has actually been reduced in proportion to original park lands. "We aren't mowing as much area just to mow it," Kline says. "We now have open fields that are only mowed once every five years." More care has been taken on areas used by people, such as bike trails, horseback riding trails, and frisbee golf.

Equipment used in this park system, the second largest in Ohio, is top quality. "We are going to the most modern and best equipment on the market because labor costs are going higher and higher. We invest in this equipment and hire the people to maintain it properly and we come out ahead," Kline says. He gets the best price by giving dealers his specifications and taking bids.

Kline uses growth inhibitors around fence posts to save on trimming. He also hires people who have low skills, often through the CETA program, but the

Contines on page 17

11 REASONS FOR CALLING THE MOST QUALIFIED TREE SPECIALIST-DAVEY TREE-THIS FALL.

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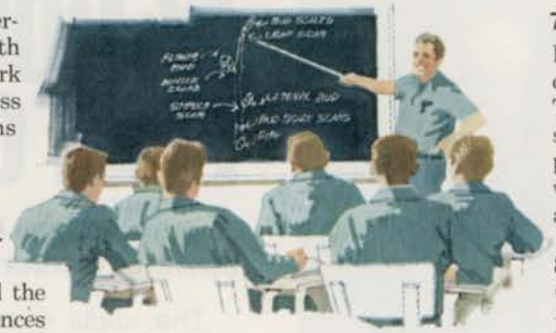

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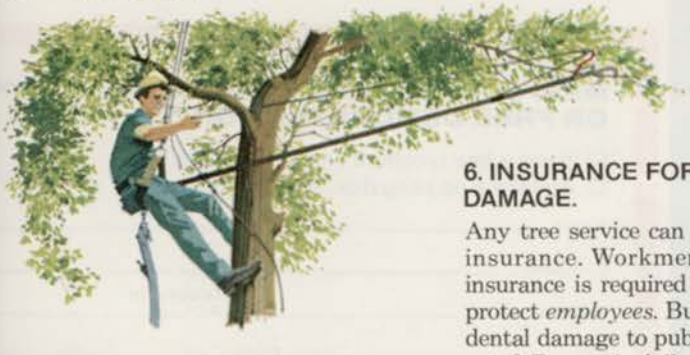

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Park *from page 14*

motivation and desire to be trained. The Hamilton County system produces its own funds through annual permits for driving through park, fishing licenses, and auctioning off old equipment at the end of the year. These economies plus only a few tax dollars have kept this self-sustaining park an attractive site for visitors.

Robert Espeseth, an outdoor recreation specialist with the office of recreation and park resources at the University of Illinois, says that in many parts of his state grounds have been studied for reduced maintenance. Mowing has been cut 25 to 30 percent in areas and fertilizing is concentrated in heavy impact spots. "In many cases, it's more pleasing to see the wildflowers and some of the natural growth than the mowed areas," Espeseth says.

Using gang mowers and large rotary mowers reduces manpower needs along with the soaring costs of unemployment insurance and workmen's compensation insurance. Spraying soil sterilants or chemicals around fences, trees, and shrubs means less hand trimming. Growth retardants and use of prairie grass, where applicable, help further decrease the amount of mowing.

Espeseth, who is also a commissioner for the Champaign County Forest Preserve District, says the Illinois park system has initiated an efficient equipment maintenance program. Every vehicle holds a card with its record of upkeep so there is no question about the last checkup. Diesel engines on equipment provide better power and economy, he says.

Illinois has a unique advantage, being divided into districts which are separate municipalities or governmental agencies that have special taxing power gives them a solid economic base. "As a result, a park district in an area doesn't have to rely on the local unit of government for financing. It can levy its own taxes up to amount that's limited by legislation," Espeseth says.

The Metropolitan Dade County, Florida, Park and Recreation Department did a study on the time it takes for every maintenance job and found that picking up litter was its biggest task. It decided to give permits to groups, like the Little League and voluntary organizations, to set up concession stands with the condition they pick up all the litter around the area.

Chief of Operations Dr. Chuck Pezoldt, reorganized the department by combining park and recreation managers into one position. He has his maintenance force divided into four levels: on-site workers, roving crews, decentralized trade crews, and reconstruction and renovation. He now puts people, who might normally be working on programs, into first level work. For example, in a pool operation, a lifeguard will do all the maintenance—vacuum the pool, wash the deck, clean the lockers, and trim the grass.

"We believe very strongly in focal point maintenance, that is, things that people look at the most should get the most maintenance," says Pezoldt. He's limiting maintenance by becoming more mechanized and forcing landscapers to cluster trees on rights-of-ways so mowers and curb dressers can move quickly. "We have a sharper appearing and better maintained median strip because of the landscape design," he says.

The Dade County system has recently included 11½ miles of beach in its 11,000 acres of park land. A referendum may cut back some taxation. Pezoldt is considering prioritization of programs and may have to increase the amount of user fees. "A park should be something everyone is proud of. We strive to make our parks look even better than a neighborhood would look," he says.

Ralph Cryder, director of parks and recreation in Los Angeles County, faces his duties with a loss of 45 percent of his tax support over the last two years. There is no money to buy new equipment or hire a sufficient work force for the 72,000-acre system spread out over 4,000 square miles.

"We have skimped on maintenance," Cryder says. He has tried to cluster maintenance on areas so one of the traveling crews can focus their work in certain areas. He is putting trees into turf areas and mowing high to mow less frequently, spraying chemicals around fences, and top dressing putting greens with pure sand to water less without the chance of burnout.

Since most of the equipment is at least five years old and must run year around, the park is fortunate to have an excellent repair shop, used especially for small equipment. It has its own personnel and building; only funds are lacking to keep it constantly operating.

Ray Dortch, deputy director in charge of parks, thinks the shop may be the largest of its type. It stocks 12,000 separate items of repair parts and has a 17-man repair force. Two traveling mechanics equipped for small repairs and tune-ups are kept busy in their daily runs, which extend 70 miles from headquarters. The shop and traveling crew not only save money but, more importantly, save down time.

More productive equipment—larger and more durable—and substituting rotary for reel mowers are directions the park system in Los Angeles is moving, according to Dortch. He also foresees more diesel tractors for fuel economy and durability, and more chemical control which will occur under more regulations. String-line trimmers won't hold up to more than six or seven months of constant use in southern California's long growing season.

Cryder thinks the biggest trend in government-supported parks is to contract out maintenance jobs. "We're going to farm out some of our smaller parks and one 100-acre park totally on grounds maintenance as an experiment to see if it's more cost effective," he says.

A 600-acre tree farm has been a "Godsend in terms of replacement," says Cryder. Most of the work at it is done by a 15-member juvenile crew, which also does clean up and hand labor in the park. Cryder thinks the park is also going to create a turf farm or sod nursery to replace turf on putting greens and other areas.

He has color coded all the buildings because of all the repainting needed from graffiti. Painting over graffiti is the crew's first task of the day. If he waits a week, a major paint job will demand union painters.

Another California park system that feels the pressure from Proposition 13 is the 53,000-acres of the East Bay Regional Park District. The park lost 40 percent of its income with passage of the act last June, says Christian Nelson, chief of parks and interpretation. He says the park district is asking industry, which is now saving tax dollars, to con-

sider adopting a park or a project in a park as part of a rebate.

Kaiser Aluminum & Chemical Corp., based in Oakland, has adopted the Roberts Regional Recreation Area in the Oakland Hills, a favorite spot of barbecuers, hikers, and scenery gazers. Kaiser Aluminum donated money and its staff for a Big Toy playground. The firm then paid the public bus system to extend its service into the park and give free rides to all children.

This park district is studying with the University of California on an integrated pest management program on some of the insects in trees, especially fruit trees, which the park inherited with new acquisitions. "We are trying to restrict the use of chemicals and someday eliminate them all together," says Nelson.

His crew designed and built a mini pump-out truck out of ¾-ton truck bed so that they could pump chemical toilets out without ruining paths and roads. "That, in the long run, is going to save us hundreds of thousands of dollars, because the roads will last without that 1,500-gallon truck going in and out all the time."

They have also developed portable chemical toilet trucks that carry two chemical toilets, two garbage cans, barbecue pits, and a supply of water. Groups that wish to have a special camp-out, like a horse trail ride in the back country, can now be accommodated with a vehicle called a "booney buggy." The party can use the vehicle in deep woods for a small fee and then drop it off when they're finished.

Although finding enough money for worthy projects is a constant battle, a park superintendent strives for functional innovations to make his park a better site. Jeffrey Bourne, chief, bureau of parks, department of recreation and parks, Howard County, Md., is beginning some projects which may not produce revenue but will make great improvements on his park lands.

Bourne's park department is working with a local environmental services department on a program utilizing sewage sludge in landfill. Presently, the two are spreading liquid sludge or dry treated solids on undeveloped areas to upgrade organic matter which is laden with clay. A recently purchased 800-acre site, 600 acres of which will be used for landfill, will be progressively developed for recreational facilities.

On the site, a planned sludge composting and treatment facility, using bulk brush, chips, and other materials, will make part of a top dressing mix for turf areas and a compost available to the homeowner. It may not be a commercial operation for a while, but it will help utilize what will soon be 70 dry tons of sewage a day from the local sewage plant. "We're looking at it more as a savings as opposed to producing revenue," Bourne says. "Here's a resource we can make use of on a regular yearly basis and it's simply being buried."

Bourne is also considering developing turf on athletic fields, which are in short supply, through what he calls a "forced growth method." It involves experimenting with a portable greenhouse installed 8 inches high over a football or soccer field that has been mulched and seeded and growing grass through solar heat in the winter time. Bourne says, "We may find that we can force grow grass on a football field and in the spring take the cap off and have a turf that's substantial enough to support play the following fall. If we do a renovation we'll close the field for 18 months to allow the turf to mature."

The 8-inch-high greenhouse will probably be built with a lattice wood frame on 8-inch centers and capped with clear poly sheeting with ventilating holes across. "What we're doing to some extent, is creating a solar collector by tapping the dirt," Bourne says. "We hope the dirt's color will absorb the sunlight, keep the soil warm, get the germination pushed up faster, and then will act as a shield to allow the grass plants to grow during the winter."

Bourne stands opposite to superintendents who are contracting out their work, although he does borrow and share equipment with other county agencies. "We try to limit, as much as possible, work by outside contractors, because we feel we have much better control and management of our projects if we're doing the work." He makes his own soil material for baseball infields with a shredder/grinder/mixer and adds crushed mix or vitrified clay to tailor the mix to the site.

A recently purchased rock picker greatly reduces the manual labor to clean up fields. Where it used to take a four or five man crew a week to walk an entire soccer field and pick rocks by hand, it now takes two men only one day.

Because of the high amount of youngsters who play in Howard County's 2,300 acres, Bourne limits his use of herbicides and pesticides. "We have decided that we are going after healthy, vigorous turf through more natural means—aeration, closely monitored mowing, fertilization, and use of the sludge."

The park system often uses the local state property surplus agencies. Through them, it purchased a late sixties Toro Roadmaster seven-gang reel mower for $600 and has also picked up smaller mowers, trucks, hardware, and office furnishings.

"Maintenance is a function of design," says Fred Galle, vice president and director of horticulture at Callaway Gardens, Pine Mountain, Ga. "In the design, if maintenance is given consideration, it can be worked out." Along with aiding maintenance, the design can also help prevent vandalism, Galle thinks.

It is a challenge to make a park attractive and educational, according to Galle, and still stay within a budget. A number of cities have their own nurseries which could supply plants, but many parks don't use them. Galle thinks the quality may be better and the price actually cheaper to buy seedlings from a commercial nursery. It is a good consideration to buy discriminately because there are many sellers of the same materials.

Doug Dalby, superintendent of park maintenance and special facilities for the Wheeling Park Commission at Oglebay Park, West Virginia, works with a totally self sustaining park. He thinks the most important way of holding down costs is to hire lots of part-time help, especially students, and keep a small permanent staff through the winter. Unskilled and semi-skilled employees willing to be trained are his best prospects.

Being self supporting means makes the Oglebay Park crew look closely at what costs money and what returns money. Revenue-producing facili-

Continues on page 53

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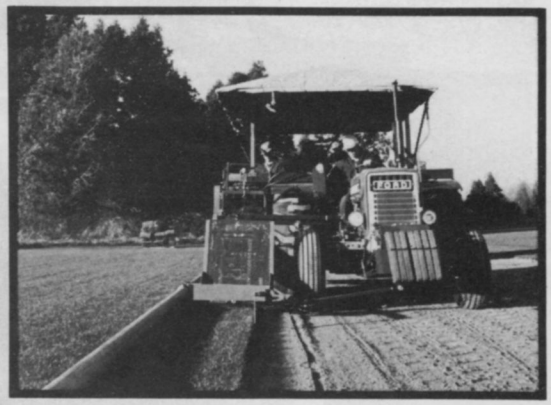

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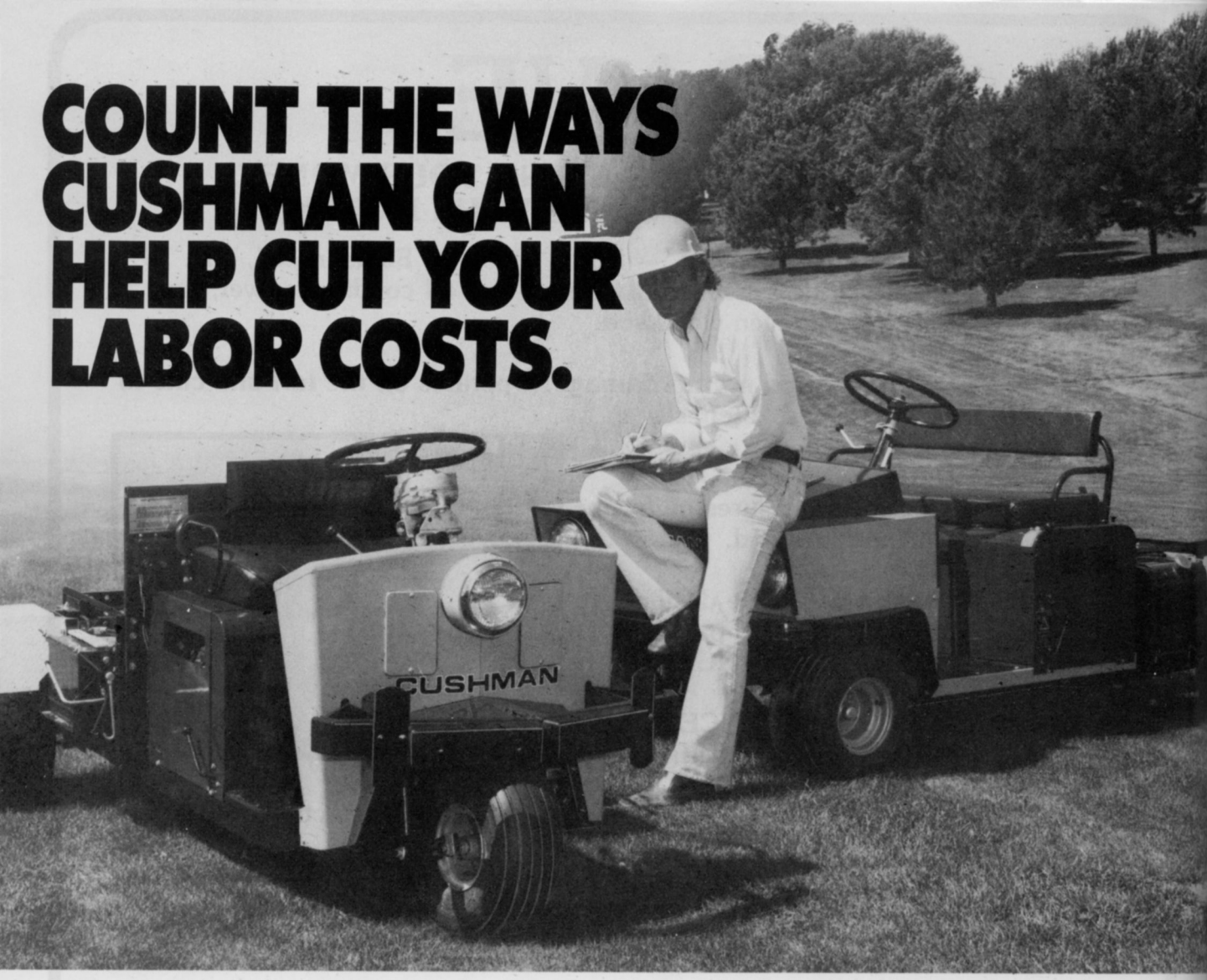

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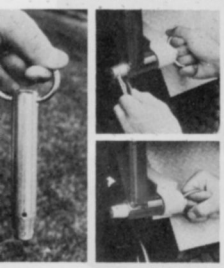

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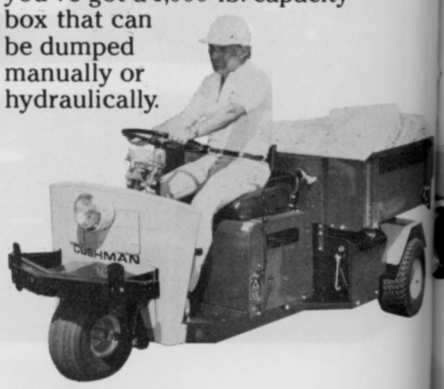
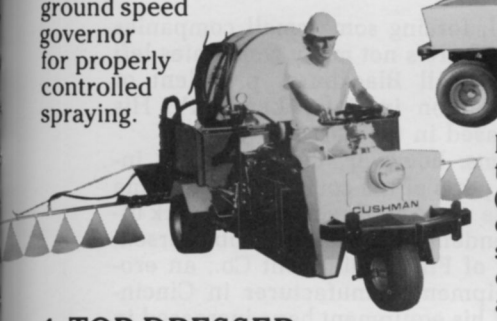


3. SPRAYER.

It's a 100-gallon polyethylene tank that holds liquids for spraying greens, trees, bushes or roughs quickly and accurately. Team it with the Turf-Truckster equipped with a standard 2 to 1 auxiliary transmission, optional PTO and ground speed governor for properly controlled spraying.



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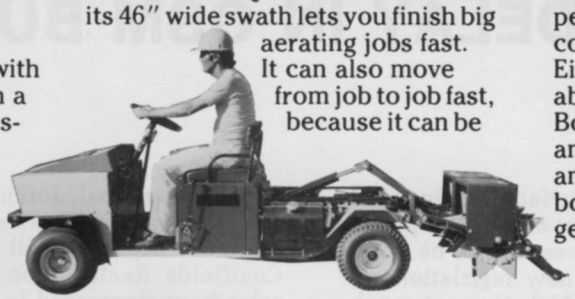

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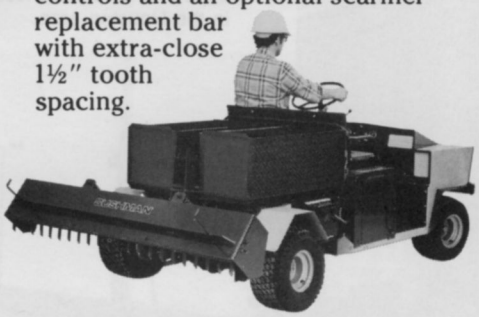

8. POWER CONVERTER.

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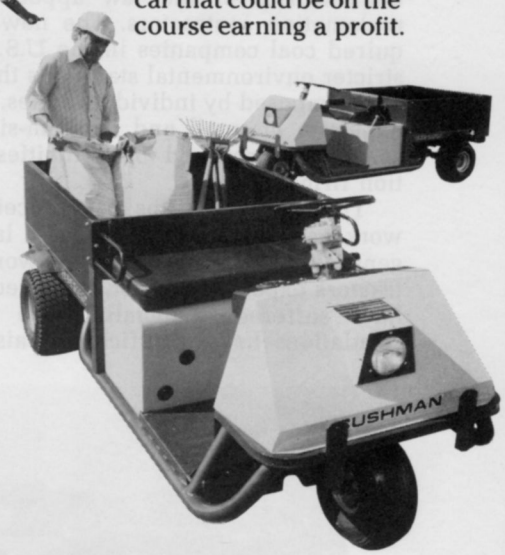

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RECLAMATION CONTRACTORS STRUGGLE TO SURVIVE DELAY IN OSM BUSINESS

by Scott Scredon

When Congress passed the Surface Mining and Reclamation Act two years ago, one of the prime beneficiaries of the law appeared to be land reclamation contractors. The new legislation required coal companies in the U.S. to meet much stricter environmental standards than those previously imposed by individual states, and the lack of expertise at small and medium-sized companies seemingly promised opportunities for revegetation firms.

Though some firms have received additional work as a by-product, the new law has not yet generated the large amount of work that the contractors expected. In fact, some reclamation firms have suffered financially since the new law's regulations have significantly raised the cost of Appalachian coal, forcing some small companies out of business. "There's not many companies left around," says Randall Blackburn, president of Coalfields Reclamation in Betsy Lane, KY. His sales have decreased in the past two years.

There are signs, however, that mining is increasing in other parts of the country, and in some instances, so is the amount of reclamation work offered to independent contractors. Bob Person, general manager of Finn Equipment Co., an erosion control equipment manufacturer in Cincinnati, said sales of his equipment have increased in recent months due to new mining in Oklahoma, Arkansas, Missouri and Illinois.

The federal government's program to reclaim abandoned mines, those lands mined before any

Flood control projects are a specialty of American Hydrograss Inc., of Houston, TX. Workmen hydraulically mulch flood control levees at a Du Pont Chemical plant (left) and at the Houston Lighting and Power Co. American Hydrograss owner John Thomas has established 15 experimental plots to test different grasses on flood-prone land in the Houston area.

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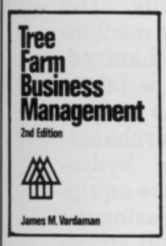

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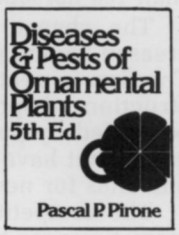

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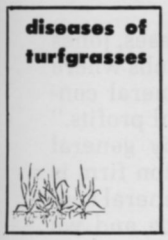

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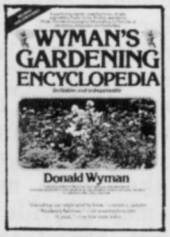

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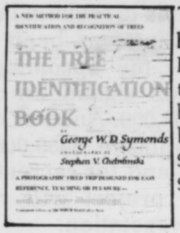

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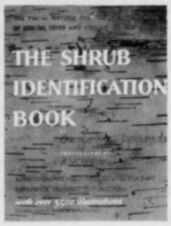

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Reclamation *from page 22*

Heavy duty rig enables The Grass Man of Marietta, GA, to seed mountainous, hard-to-reach areas.

states required reclamation, has also not proved fruitful up to this point. The U.S. Office of Surface Mining (OSM) the agency charged with administering the new federal law, has been funding projects for the past several months. But few of these projects have actually required substantial revegetation.

Though this program may become the backbone of employment for reclamation contractors within the next couple of years (it calls for spending more than $100 million annually), another program may provide more immediate benefits. The Rural Abandoned Mine Program (RAMP), administered by the U.S. Soil Conservation Service, intends to reclaim land on rural sites.

About $10 million has been appropriated for these projects for the upcoming year. Contracts have already been signed for three projects in Texas totaling $167,000. Another contract, signed in Kentucky, will allocate $450,000 to a non-profit group to reclaim land for recreation use, and SCS officials say the project will require extensive regrading and revegetation.

Otherwise, contractors will need to continue to develop their existing markets. Though many contractors feel the potential business in these areas does not mean expansion, there may not be a drop in such projects, either. The Washington Department of Transportation, for instance, plans to award contracts to provide erosion control on about 600 acres and spend another $2.5 million in landscaping during the coming year.

The most successful reclamation contractors, however, have relied on innovative business and marketing ideas to increase their sales during the past couple of years.

Owen Jones, president and general manager for Contract Grass Co., Inc., Marietta, Ga., said the company's owner decided about one year ago to pursue jobs that require large equipment and more land, thereby generating higher profits, than the smaller jobs they had previously bid on.

Jones said the company was experiencing stiff competition from smaller firms and farmers who would undercut their bids by as much as 50 percent. The firm also decided that it must fight price increases by improving its own productivity. "The only way we could do that was with better machinery," Jones says. "I decided we'd be mechanized, while other reclamation contractors were labor-intensive." He claims that productivity has jumped 300 percent because of these equipment purchases.

The firm increased the number of hydroseeders from one to three and transports the equipment over longer distances, thereby increasing the number of jobs it could bid on. A second straw-mulcher was added and other tractors with more than 100 horsepower replaced smaller ones.

The change in business philosophy has increased annual sales to about $700,000, Jones says. The firm is treating land disturbed by airport construction, disposal areas for waste materials generated by power plants, federal building programs that have expanded waterways and canals, and sites for new railroad construction.

The competition has dropped because not as many firms can handle the more complex problems of these jobs. "These projects have large acreage, rough terrain and hilly country. Every project has cuts and fills," Jones says.

Along with the new equipment purchases, Jones says the company decided not to bid on jobs where the firm would sub-contract from a general contractor or take a job that offers "marginal profits."

Jones opposes those jobs offered by general contractors since he feels the revegetation firm is financing the general contractor. "The general contractor usually gets a front-end advance and we don't get paid until 30-60 days after the job is done. We're financing him and we don't think he does anything for us in return." Jones admits that the philosophy has occasionally been costly. "We lost some big jobs over that."

But the larger jobs, those that provide handsome profits, allow the firm to make certain it can provide more than adequate revegetation results. "We've never had a problem delivering a final, good grassing job," Jones says.

The new kinds of equipment have enabled the firm to pursue jobs that involve more than just planting grass. One project covering several hundred acres will require planting 70,000 shrub and tree seedlings for wildlife cover though Jones must guarantee a 70 percent survival rate. "We do have specialists working for us who have done that kind of work," he says.

Mine reclamation work also interests Jones, and he initiated a meeting last month with officials at one Alabama mine to convince them he should do their reclamation work.

Jones feels his firm can do the work for less money than the mine company. The key factor, however, is getting enough work to keep his machines busy. He figures that at least 1,000 acres per year would be necessary to pay off an additional investment of between $200,000 and $300,000 for new equipment needed for the mined land.

Bulldozers and harrows are necessary, Jones says, to perform seedbed preparation at the mines. "The soil is so tough, you can't use rubber tires. Un-

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Reclamation *from page 24*

til the firm achieves the 1,000-acre goal, Jones will sub-contract work where they need heavy equipment. He is not pleased that the new federal law requires reclamation immediately following mining, since he has to make more trips to the mines just to restore 10 to 15 acres.

While Jones and some other reclamation contractors see surface mine reclamation as the new frontier, contractors in Appalachia, who have earned their living for the past several years from greening the mines, are looking for ways to cut costs on these jobs and expand into other markets.

Ken Faerber (pronounced Fay-ber), president of The Green Mountain Co., Charleston, W. Va., reclaims more than 15 underground mines and is also looking into other non-traditional kinds of reclamation.

Reclamation inspectors from the Office of Surface Mining have issued violation notices to underground mine operators for failure to obey regulations on haul roads, drainage and other areas, Faerber said. So he has tried to construct drain pipes and perform more grading and excavation in order to help them meet the federal government's rules.

The U.S. Environmental Protection Agency is also gearing up to monitor the disposal of "hazardous wastes," the by-products of chemicals and other materials that can pollute water sources. Faerber says this will require the contractor to sample the overburden at the disposal site, perform leachate tests and insure the quality of ground water. This kind of work may begin to form a new kind of reclamation contractor, Faerber feels.

"We just can't look at reclamation as going out there and putting down grass. That's just an after fact."

Faerber still does plenty of work on surface coal mines, but is using different methods to apply seed and mulch to keep that part of his business lucrative. He often seeds mines by helicopter when the disturbed land is more than 50 acres, saying it is cheaper for the coal operator than if seed is applied with a hydroseeder. This includes a refertilization program to aid germination since the seed is dropped onto land void of nutrients. Costs of application of seed by helicopter vary. Applying seed without any mulch is the least expensive method, and adding a latex mulch is the most costly.

Faerber recommends the use of liquid latex mulches, saying they aid germination on "critical" areas. He says it is not "cost-competitive with wood fiber mulch until the contractor needs to apply between 1,000 to 2,000 pounds per acre of wood fiber.

Handling the liquid latex mulch is also a problem, since the liquid is delivered only in five-gallon and 55-gallon barrels. The latter size is "kind of hard to get on top of a hydroseeder," he quips. Yet it will "stick to darn near anything" and helps establish grass during the initial application.

A third contractor has also found a way to analyze another kind of spoiled land and turn its restoration into a profitable business.

John Thomas, owner of American Hydrograss Inc., Houston, Tex., forged into the reclamation business by approaching oil refineries and petrochemical plants with the idea of growing grass on their land.

Besides selling companies such as Exxon, Gulf Oil and Diamond Shamrock on the aesthetic appearance of a reclaimed area, Thomas showed them that it is cheaper than paying for cement or other construction materials. But growing vegetation on these sites actually involves reclaiming them, and has presented problems.

"Our biggest problem is the soil structure," Thomas says. "A lot of the sites where the plants now stand used to be dumping grounds for certain kinds of chemicals.

"There's also a tremendous salt problem in some areas. The high concentration has meant possibly going with another kind of seed in some situations."

Thomas said soil samples are taken at each site to determine salt content and other factors. Occasionally, new topsoil must be hauled in to give seed a growing medium, and there have even been sites where the soils won't support plant growth.

Direct contracts with the oil companies for these jobs, which usually cover between 2-10 acres, have increased his company's sales "substantially" during the past year, he says.

Though his competition has increased about five percent during the past year, Thomas is also working as a consultant to some of these firms, even when they win a contract he would have liked.

Thomas feels the smaller firms might overlook some details about performing a job. "Though the area where the job is might have a water source, it may need to be sampled because it's not salt-free. This has happened a number of times." Thomas is also a supplier of seed, fertilizer and wood fiber mulches.

Though Tony Haley, an equipment specialist for Caterpillar Tractor Co., Peoria, Ill., has predicted that mining in Texas will experience the biggest immediate jump in mining (from 19 million tons in 1978 to a projected 50 million next year), Thomas says he doesn't foresee a move into mine reclamation.

"The distance of the mine fields puts us pretty well away from mining," he says. "There are conditions here that require us to stay put." He says he often can sign a contract "overnight," especially if a hurricane or other bad weather is expected, and the site needs to be seeded immediately.

Thomas worked to establish his business in the local area. He became involved in another kind of revegetation after attempts by some government officials to place revegetation standards on new housing construction became imminent.

Heavy rains eroded property from new homes on Houston's west side last summer, and many residents blamed the city for failing to maintain a 40-foot parcel of flood control ditches.

After talking with some of the home builders, Thomas established 15 experimental plots to test different grasses on the flood-prone land. Though the Harris County Flood Control District has delayed the approval of a revegetation plan thus far, primarily because of recent changes in its administrative structure, Thomas feels a plan will soon be adopted.

If some specifications for revegetation are approved, Thomas feels his work with the developers will give him the first chance at this new business. **WTT**

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CONTRACTORS DESCRIBE PROJECTS CHOSEN AS 1979 AWARD WINNERS

The Martin-Marietta Corp. Headquarters

by Bruce F. Shank, Editor

An award winning landscape project demonstrates the skilled combination of natural beauty, functional efficiency, and personal comfort. In 1979, regional and national groups selected and recognized more than 100 successful landscape projects in the United States. Seven award winning contractors have agreed to share their project reports with us. They offer a variety of solutions to regional and topographical conditions in the design and construction of a professional landscape.

These projects offer tips on how to take an existing area, to identify problem elements, and to arrive at a controlled, yet balanced, environment for plants, structures, and people. We encourage you to keep this issue for future reference and to participate in design/build contests in 1980.

Chapel Valley Nursery Co., Woodbine, MD
Project: Martin-Marietta Headquarters
Landscape Architect: Andrew Balderson, of Donovan, Feola, Balderson & Associates, Inc., Silver Spring, MD.

This project has received four awards during the last three years for different phases of construction. The 1979 award was a Certificate of Merit from the American Nurserymen's Association. In 1978 it received a merit award from the Associated Landscape Contractors of America. In 1977, it clinched the Grand Award from the Landscape Contractors Association of Metropolitan Washington and the Contractor Award from the Maryland Chapter of the American Society of Landscape Architects.

The Martin-Marietta Corporation Headquarters Building was designed to reflect the high standards of the corporation. The location, site development and building design were intended to produce the best environment possible.

In order to achieve this high standard, the owner demanded that all facets of the project be carried out with the highest quality of materials and workmanship. To that end, the owner worked closely with the architects and contractors in overseeing that all stages of project development were implemented and completed in a proper and professional manner.

The project landscaping proceeded in two phases: exterior planting and interior courtyard planting.

The exterior planting included a complete irrigation system, 4 inches of topsoil over site, bermed areas, fine grading, seeding and sodding, large and varied planting areas, walks and a paved plaza entrance area.

Changes and corrections to original rough grading were necessary to create the proper berms for the planting and lawn areas. These berms provide a rolling effect to the exterior planting areas.

Owner dissatisfaction with particular plants was resolved by consulting with the architect on substitute tree varieties to achieve the desired effect.

The plants were selected in size, groupings and color to contrast and complement the building as well as to provide a tranquil and pleasant area for both employees and visitors.

In order to heighten this effect, a screening of sixty White Pines was planted to both cut off the view and lower the noise level from a major highway, Route 495. All sides of the building were landscaped to provide a picturesque setting either viewing the area from the perimeter roadways or looking out from the building over the site. A canopy of Kwanzan Cherry trees, as suggested by the landscape contractor, surrounds the employee cafeteria adding seasonal interest to an important gathering place. A manmade pond was created with walks and sitting areas to enhance the overall impact.

View from entrance of Martin-Marietta headquarters.

The three interior courtyards, North, South and Central, required individual irrigation systems, intricate site grading, special planting mixtures, numerous large and small plants and decorative paving.

The North Courtyard posed a particular challenge to the landscape crew's ingenuity. The North Courtyard is located 15 feet above grade on the top of a parking garage. After analyzing the situation, it was determined that access to this area was limited to a four by four foot trap door located in the floor of the courtyard. Plant material was lifted through the trap door either by hand if light or by tripod and chain hoist if heavy. Because of weight constraints, a special soil mix was used consisting of one-third perlite and two-thirds topsoil for this area. In order to bring in the necessary 500 cubic yards of special planting mix, an 80 foot long conveyor was set up to bring materials from outside the building, through the building and into the courtyard.

The Central Courtyard required twenty-five 12 foot wide, hexagon brick units held together by steel edging. After a discussion between the shop manager and landscape foreman, it was decided to make the twenty-five, preformed, welded metal edged shapes at the shop and then take them to the job site. This courtyard, which is overlooked by the visitor waiting area, provides a colorful and seasonal vista for all interior employee offices.

Again, access was a problem in planting the South Courtyard. But, utilizing the experience gained in competing the North and Central Courtyards, the crews were able to complete this courtyard planting without any additional difficulty.

The desired environmental effect of quality and tranquillity was achieved through owner involvement, designer capability and landscaping excellence.

The Port Ludlow Recreational Complex

Evergreen Services Corp., Bellevue, WA
Project: Port Ludlow Recreational Complex
Landscape Architect: Glen Hunt & Associates, Seattle, WA

The Port Ludlow project won a merit award for landscape maintenance from ALCA in 1979. Even though termed a maintenance project, in fact it is more an overhaul to a major landscape project which had been previously maintained by personnel of the developer. Rod Bailey, president of Evergreen Services, says the big challenge was developing a site management program for a site already worthy of recognition. Bailey credits Robert Rooney and Mike Emel for their work on this project.

The Port Ludlow project was developed and planted in 1969-1971 and was initially maintained by developer personnel. Evergreen received the maintenance contract in 1973 and began a five-year program to upgrade the landscape. Available budget was low and placed a strong emphasis on labor, equipment, and chemical productivity.

The 26 acres of landscaping posed significant challenges. There was no irrigation, topsoil was thin and the landscaping was sparse and weedy. The project is physically remote from Evergreen's Bellevue offices and is located in a commercially undeveloped area.

The prioritization of the program was to upgrade the site while maintaining, watering during restricted periods, working with special events and weekend traffic, and working with different groups of owners to establish and affect common objectives.

There are six important factors which influence maintenance practices:

—A moist, salt water marine climate
—Extensive areas of groundcover plantings (6.4 acres).
—Extensive turf areas from rough (12 acres) to fine mow (7.3 acres).
—Native areas surround the grounds and transitions are important.
—Heavy public use of the facilities.
—Three different customers involved in budgeting and contracting although project is handled as single unit.

Six acres of groundcover make the Port Ludlow maintenance job especially challenging.

Evergreen decided on a three-phase program to upgrade and maintain the property. The first was to clean out beds and reestablish weed control and native area encroachments. Watering, fertilization and turf improvement practices were implemented.

During the second phase, site modifications and improvements were made to align maintenance with foot traffic and public use patterns. Bed mulching was improved and chemical technology began to play a larger and increasingly effective role.

The third and current phase involves increased emphasis on edging, pruning and shaping plants as they mature, and establishment of permanent standards of maintenance.

Throughout the five years, budgets have remained constant with allowances for inflation only. The combination of upgrading and maintenance under one budget has made upgrading a longer-term project.

A twelve-month program is carried out by two full-time workers. Mowing operations must cover steep banks, boggy areas, high-traffic areas and native transition areas. Edge maintenance ranges from formal to natural edges. All clippings are removed from both rough and fine turf for thatch, appearance, and fungus control. A 72-inch rotary Excel Hustler with grass catcher and a 36-inch Lawn Genie flail mower with grass pickup are the largest pieces of cutting equipment. The Lawn Genie is also used to dethatch large turf areas. Bobcat rotaries and a Flymo floating rotary for mowing wet, soft areas are used for close mowing. A Jacobsen Edger-trim is used for formal edging and a number of Green Machine monofilament trimmers are also used for trimming. A backpack blower is used for walkway and parking lot sweeping as well as leaf control in the fall and winter.

Watering of turf areas is 90 percent manual using soakers, hoses and impact heads. The glaciated soil wets quickly to the point of runoff and dries quickly thereafter. During drought periods watering priorities are followed.

Fertilizing turf areas is influenced by subsoil conditions and is done on an as-needed basis with a slow-release 15-5-10 granular fertilizer with trace elements. Overall, turf areas receive 6 lbs. nitrogen per year. Weed control is accomplished mainly by spot sprays. Insecticides are used only when indicated.

Groundcovers are fertilized regularly. Both ivy and Hypericum are pruned to maintain a natural transition between turf and groundcover areas. Parking lots are below grade and surrounded by berms to preserve the natural appearance of the area.

More than 350 rhododendrons are carefully maintained while in bloom to remove all spent flower heads. Bed areas are treated twice a year with pre-emergence herbicides. Native areas are maintained by removal of deadfall and debris, pruning and mulching bare areas.

Significant numbers of hand tools, hoses, irrigation heads and spraying equipment are maintained on site.

Drought tolerant plants as they appear at dawn around the Tucson Credit Union.

Harlow and Co., Inc., Tucson, AZ
Project: Tucson Municipal Employees Federal Credit Union
Landscape Architect: Daniel Elder, Tucson, AZ

The Credit Union project was awarded a design/build Environmental Improvement Award by ALCA because it was one of the first public buildings to be landscaped entirely with drought tolerant plants. The challenge was lack of water and Harlow and Co. found a beautiful solution.

Instead of turf or groundcover, decomposed granite was used. Unlike pea gravel, decomposed granite does not show foot prints or shatter. This was important due to the large amount of foot traffic at the building and because a bus stop was located next to the property. Underneath the granite, gravel mill reject was used instead of topsoil. This eliminated any trouble from weed seeds. Usually, preemergence herbicides are needed to control weeds in gravel yards.

Drought tolerant plant species including fountain grass, Texas ranger, eucolyptus, mesquite and caffia artemisoides were used in designs around granite boulders. A drip irrigation system provides water when needed at a cost of less than $30 per month. Part of the two acre site is covered with brick walkways illuminated by architectural lighting.

Bill Harlow told Weeds Trees and Turf, "Ten years ago we used no more than 100 yards of rock per year, now we use almost 20,000 yds. per year. Still, there has been a noticeable return to grass since the drought scare has been relaxed."

Green Brothers Landscape Co., Smyrna, GA
Project: Dana Jones Residence
Landscape Designer: Jim Gibbs

A design/build winner this year in ALCA's Ninth Annual Environmental Improvement Awards Program, the Dana Jones residence is a contractor's dream. Green Brothers were essentially asked by the Jones family to design and build the best landscape possible. And they did.

Actually one job led to another. Green Brothers was hired to provide a more inviting appearance to the Jones home in College Park, GA. The house was white, positioned on top of a steep grass-covered slope to the street. Turf quality was poor and there were very few landscape plantings. The net effect was a cold, glaring appearance.

Arbor at rear of Jones residence ties back of yard with house.

Gibbs recommended the house be painted in a softer shade, a circular drive be built, groundcover planted on the slopes, and installation of a brick walk bordered by fine turf. Shade trees were planted to provide a canopy effect.

Pleased with their work, the Jones asked Green Brothers to do the rest of their yard over a period of three years.

The back yard faces south and drainage is relatively poor. Deciduous trees were planted to provide shade in the summer and raised beds and mounds were used for much of the plant material. Brick walks, summer house, arbor, and an activity area were designed for foot traffic.

Instant use of the back yard was achieved the first year with construction of a brick patio and lattice brick wall. A small garden pool with a bronze wall fountain and recirculating pump provided a water feature for the patio. Potted plants and urns soften and add interest to the patio.

A summer house was constructed as a place to view the gardens. A wooden planter was placed on top of the brick wall and filled with Hans ivy.

An architectural mound constructed of field stone was added and planted with Hosta lily, ferns Carissa holly, and Gumpo azalea as accent plants.

An arbor was constructed as an activity area and to tie in the back of the property with the rest. A curved walk to the arbor gives the garden a feeling of being much larger than it really is.

In another area, a path of stepping stones was installed and a groundcover of Mondo grass was placed between the stones. Finally, flowering displays were added for color.

Green Brothers takes care of all pruning, spraying, and fertilizing. The firm boasts that as a design/build firm, the work of its designers, contractors, mason and carpenter result in a unified and improved level of quality.

Stark appearance of Jones residence before (left) and more inviting appearance after professional landscaping.

Looking over pool and waterfall toward street from Lackey residence

Landscape Associates Inc., Little Rock, AR
Project: William Lackey Residence
Landscape Architect: Robert L. Shaheen, Little Rock, AR

This ALCA winner was the result of the site not lending itself to the construction of a swimming pool in the rear yard as well as the client's desire for more direction to the front door for arriving guests. Therefore, the swimming pool was constructed in the front yard where it serves as both a functional swimming pool and a whirlpool bath as well as a garden pool when viewed as part of the total project.

At the street a lantern designates the entry point into the garden. Guests are then led through the space on large stepping stones to a large stone bridge which directs them to the front door. The space is night lighted by using subtle downlight fixtures which illuminate the walks and flagstone areas, with sunken uplight fixtures that high-light the multi-trunk Yaupon Holly trees around the pool area. Lights were also used on some of the existing large native trees in the space.

Informal plantings of Dwarf Chinese Hollies, Azaleas and English Ivy as a ground cover along with multi-trunk Yaupon Holly trees were used to humanize the scale among the large native species around the pool.

To provide separation from the street, plantings of Chinese Holly, Cotoneaster, and Japanese Black Pine were intermingled to establish a dense buffer. Areas of flagstone and decking were used around the pool to provide a hard surface for gathering and circulation.

The carport and driveway were both designed and constructed by the landscape contractor. The carport not only provides shelter for the automobile but also has a complete cooking range, sink and bar facilities which can be covered when not in use.

To add to the more natural appearance of the pool, chrome ladders and diving board were eliminated, steps were built into the pool wall at several locations and for diving a large stone was cantilevered out over the water. Also, to add interest a small waterfall was located close to the bridge stone. This waterfall is connected directly to the circulation system of the pool filtration system. The pool inlets were also adjusted upward to add additional water motion.

Although the total space is relatively small, many exciting landscape features were achieved as well as the separation and privacy that was needed for the pool. Landscape Associates acted as the Landscape Architect and Contractor and performed all the work, including the construction of the carport, driveway and entertainment center. In addition to this the Landscape Architect consulted the clients as to the change of color for the house to make it more harmonious with the landscape.

Frost and Higgins, Burlington, MA
Project: Faneuil Hall Marketplace, Boston, MA
Landscape Architect: William Pressley, Newton, MA

Frost and Higgins won an award during AAN's 25th Landscape Awards Program this year for this attention getting project in Boston. William Rae received the award for Frost and Higgins.

Take 150 years of history, 10 years of restoration work, and finally just a few weeks to add the final touch of trees surrounded by a cobblestone walkway. But that's not all. Add temperatures in the 90's, the need to find 22 large and matching honey locusts, and to install them without injury in a tightly packed construction location filled with other workers.

First a little history. The Faneuil Hall Marketplace is in the center of the government and financial district of Boston. Before the marketplace, the area consisted of a 100 foot wide street between two 500 foot long, 150-year-old buildings. There were no trees, just granite walls and paving, with the resulting glare and noise. New high rise buildings had modified the wind patterns turning the area into a wind tunnel.

To prepare for the 150th anniversary of the area, the Rouse Co. of Baltimore had spent more than ten years planning, designing and restoring the area. As the date approached the pedestrian mall, which had been the street, was not completed or planted. Press coverage made the completion of the project even more critical.

Frost and Higgins had to locate 22, seven to ten inch caliper, honey locusts. Tre-ease of Millbrook, NY, had them. The trees were watered well before digging and hardened off for a few days. Each tree weighed about 15,000 lbs. with root ball.

Because of extreme heat the trees had to be moved to Frost and Higgins main yard in Burlington at night. Upon arrival they were thoroughly watered and kept under cover.

Due to other construction taking place in the mall area during the day, the trees had to be installed at night to avoid any injurious delays. The project took six nights and planting was hampered by news cameramen.

The results were spectacular and the trees were in a week before deadline. The deadlines were important because the trees had to be in place prior to cobblestone paving. The 22 trees 30 feet above the cobblestone walkway buffered the wind, stopped the glare and provided a soft light and warm atmosphere, and replaced the noise of traffic with the rustle of leaves.

Three little leaf lindens and numerous planters were also installed in the area. Taxus and seasonal flowers in the planters add another natural dimension.

Frost and Higgins currently maintains the mall plants with watering, spraying, pruning and inspection. Today, the marketplace contains 36 honey locusts and three nine-inch caliper lindens. Six three-inch locusts are in large planters with the rest planted at grade, surrounded by cobblestone walkway.

Faneuil Hall Marketplace's new look.

Twenty-nine tons of river rock were hauled from mountain streams to provide a natural appearance.

SaBell's Inc., Lakewood, CO
Project: The Crestwood Restaurant, Littleton, CO
Landscape Architect: Don Godi & Associates, Lakewood, CO

Atmosphere is a good part of enjoying any restaurant. This merit award winning project of the 25th AAN Landscape Awards and the 1978 ALCA Environmental Improvement Awards, took this fact and provided a customer conscious exterior environment for the Crestwood Restaurant.

"We want people to feel the quality of our restaurant from the time they get out of their car until they leave," says owner Peter Winfield. "The landscape beauty is the first and last impression we make with every meal."

LA Don Godi commented that the site is small with no natural features to really capitalize on, except for a few trees. Godi planned a mound and tons of stream rock to act as natural features.

"Since there was no waiting area in the restaurant, we designed the front to serve as one, Godi points out. "Under tree canopy, two parking spaces were removed, and two benches were installed. The design is very pedestrian oriented."

A rock and concrete stream winds through the design. Since the site is small, plant beds with floral displays and groundcover replaced turf. Honey locusts provide canopy and are highlighted during the night with overhead, indirect lighting.

"Of all the initial impact," says Wally SaBell, "the soft canopy effect of the honey locust trees, combined with the running fountain water give an overall effect of peace, serenity, and luxury. Sun loving annuals will eventually be replaced with impatiens, sultanas or other florals as the honey locust canopy provides increased shade. The stream is designed to be maintenance free."

Lighting ties the project together. "The three corners of the parking area are lit and landscaped like the restaurant area, says SaBell. "Fountain lighting is changed to coincide with the season; i.e. amber in summer, red and green during the Christmas holidays.

Appreciating the value of landscaping, Winfield says, "We have been very cognizant of maintaining our property. We try to provide it the same care as a Classic automobile. The older the project gets, the better it looks." **WTT**

FALL IS THE TIME TO REVIEW OR BEGIN PREVENTATIVE MAINTENANCE PROGRAM

by Philip A. Taylor, manager, Turf Products Service, Jacobsen Div., Textron Inc.

As the end of the season approaches we begin to plan for winter equipment storage. It is also an excellent time to review your maintenance program and implement a preventative system of equipment and personnel management.

Preventative maintenance becomes more important every year. In today's economy, the only thing that remains within reason, at least from your boss' viewpoint, is your budget after he cuts it. And since funds are tighter, labor more scarce, regulations stiffer, and back-up units a thing of the past, keeping your equipment in excellent working order can only add up to full season productivity, safety and economy when you start up next spring.

Preventive maintenance is simply a program for making routine inspections of equipment to discover and correct minor faults before they develop into major problems. Read that line over again. It really is that simple.

One of the keys to the definition is the word routine, which implies a methodical going-over of the functional areas of the equipment.

If you don't already have one on stream probably the best time to start a preventive maintenance program is right now, at the close of the season. And one of the steps is putting your equipment in prime condition before storage.

Here is our schedule of routine start-up maintenance:

Visual Inspection — The first step to take in readying equipment for storage is to give it a visual inspection before cleaning it. Steam cleaning it, for instance, will remove telltale oil leaks and other signs you'll want to note for attention.

Steam Cleaning — Next comes a complete cleaning of all parts. There is nothing quite as fast and thorough as the steam method, though portable high-pressure washers can do an excellent job, too. But you'll want to take care not to focus the pressurized stream toward the air cleaner, oil dip stick opening or any area that may allow moisture to enter the engine or other enclosed systems.

General Inspection — With any leaks noted and the machine clean, you're ready for a more detailed inspection. Now you'll be looking for indication of condition, proper assembly, security of connections and excessive wear. By good condition we

Continues on page 40

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The Toro Company, Irrigation Division, P.O. Box 489, Riverside, CA 92502. International Telex: 676-490.

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Maintenance *from page 36*

mean components should not be bent or twisted, chafed or burned, broken or cracked, bare or frayed, dented or collapsed, torn or cut, improperly aligned and so forth. Correct assembly means just that: parts in the normal position, properly aligned, and secured. The multitude of fasteners should be examined: cotter pins and locking wires, lock nuts and washers, nuts and bolts, screws, etc. should be well secured and in good condition. Excessive wear is the kind that is likely to result in failure if the item in question is not replaced. Action should be taken as warranted in all these areas.

Tires — You'll want to check the pressure for each tire and adjust it to the recommended level for steering and driving wheels. Each tire should be inspected for uneven wear and damage.

Battery — This should be removed from the vehicle to a cool (not freezing) area, and kept on a wooden bench or wooden blocks; not a concrete floor. Every 30 days, it should be brought up to par using a trickle charger. When a gravity reading appropriate for your battery is reached, disconnect it till next month. Back at the machine, be sure the cable connectors are clean. Inspect the ground for sufficient metal-to-metal contact for a good current flow. Apply a light coating of petroleum jelly or chassis lubricant to both terminals to prevent corrosion later on. Clean up the hold-down bracket and its rods while you're at it. This is an excellent time to take care of little details like this that might be overlooked in the haste to get moving come spring.

Sparkplugs — Remove and inspect the electrodes for carbon or burnt condition. If they are reusable, clean them with a wire brush and regap each plug according to specifications for your engine. If they can't be used, buy an identical set, gapping them as specified. While the plugs are out, add a small quantity of oil to the upper cylinders. A tablespoon of 10 to 20 weight per cylinder is right. Reinstall plugs and tighten to correct torque.

Air Cleaner — An engine starved for air uses more fuel and will not deliver the performance expected. Inspecting the filter takes only a moment and even less time to time to replace — with the type approved by the manufacturer.

Oil — If the season's service schedule indicates a change is about due, drain the crank case and refill with fresh oil of the weight and performance recommended by the machine's manufacturer. Change the filter too, if so equipped. Follow the same procedure for your transmission and hydraulic system tank, if your machine is equipped with the latter. Pay special attention to the hydraulic oil you use as the improper kind can damage seals and cause other operational problems when you don't need them.

If your machine utilizes hydraulic cylinders, be sure that you protect the portion of the rod that is exposed. Some units can be stored with the rods retracted; others must be stored with the rods exposed. If you must store yours with the rods exposed be sure to coat the rods with a protective coat of grease. Failure to do this can result in rusted and pitted rods with subsequent seal failure.

Continues on page 44

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Plus, the Turfcat is quiet. All controls are within easy reach. And it might very well be the most comfortable riding rotary in the world.

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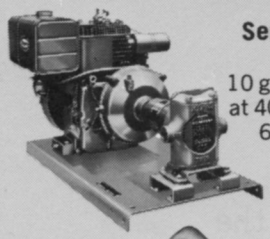

Series 5200 Big Twin
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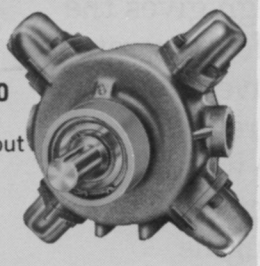

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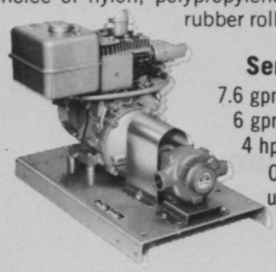

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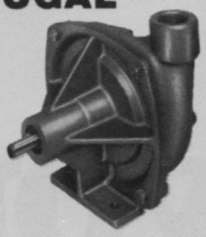

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Maintenance *from page 40*

Fuel — If the fuel tank is partially full, add a gas stablizer during storage. When it comes time to start the season, you may want to add a solvent that will help dissolve gum that might have formed in the gas lines and carburetor. If your fuel line has a filter, give it an inspection too, removing any sediment that may be in the bowl.

Belts & Chains — Examine belts for wear and replace them as necessary. Adjust the new or the acceptable old to the proper tension. Chains should be removed and cleaned in kerosene, then dried and coated with the recommended lubricant before replacement. Adjust these to the proper tension level, too.

Lubrication — Following our assumption that your machine was not serviced prior to storage, now would be an ideal time to turn to the lubrication chart in your owner's manual and lubricate the entire unit. If different lubricants are specified, by all means use them. Each has been carefully predetermined for a very specific performance. Not following the charts could lead to premature failure of important components.

Cutter Maintenance — Now we come to the working end of the machine, the rotary blades or reel blades and bedknives that cut those many acres of turf or fine grass. Inspect the mowing blades (and bedknives) for nicks, gouges, or signs of damage or uneven wear. Grind and lap the reel type mower, following instructions given its maintenance manual, and sharpen the rotary blades. Adjust reel units to zero contact and zero clearance without drag or resistance to rotation. The bedknife should be set close enough to the reel blades so that a strip of newspaper placed along the mowing surface can be cleanly cut without metal-to-metal contact. Give surfaces a thin coat of a light-weight lubricant to avoid rust.

Brakes — The attention you give the brakes depends upon the age of the machine. But we would recommend removing the drums, dressing them down as needed, and inspecting the shoes. It's better to replace those shoes now if you don't think they'll make it through the coming season. Time is a whole lot less expensive now than later on.

Touch Up — Now that the machine has been completely cleaned and serviced, attention can be turned to touching-up painted areas and applying a preservative to bare surfaces. For the painted areas, you'll want to remove as much as possible the rust that may have formed before brushing on a coat of rust-inhibiting paint. For the unpainted surfaces a coat of rust preventive oil (except pulley groves) can be applied.

Preventive Maintenance — As we said, the whole idea of preventive maintenance is to save money, minimize downtime, add safety and extend the operational life of a piece of equipment.

Fortunately preventive maintenance doesn't cost money. Your present facilities are probably adequate, no matter how modest. Preventive maintenance is basically free because most of all, it takes only you to put into practice the knowledge you already have — and a little help from a maintenance schedule such as the one we have provided.

WTT

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: *Could you please recommend some evergreen trees or medium-to-tall evergreen shrubs that can be used as a screen and will tolerate shady conditions (Mid-Atlantic region)?*

A: All species of hemlock (*Tsuga*) will withstand shade although they grow best in full sunlight. Hemlocks can be pruned to form a very dense hedge and will eventually reach 75' to 90' if left unpruned.

American arborvitae *(Thuja occidentalis)* is almost columnar in growth habit and grows best in moist woods near water. Arborvitae has the undesirable habit of turning brownish in the winter and will grow to 60' at maturity.

Inkberry (*Ilex glabra*) will grow to 8 feet and grows best in wet, acid soil. It grows well in dense shade.

Rhododendron, pieris and *kalmia* will exceed 8 feet in height and form a loose screening effect. All of these species grow best in well-drained, acid soils and will tolerate fairly dense shade.

Q: *We have a large euonymus that is covered with a small white scale. The leaves are beginning to "roll" and the twigs are dying back. What chemical will control this and when should we spray?*

A: I can't positively identify the scale without inspection but it is probably euonymus scale. Heavy infestations usually require both a dormant and a late spring-early summer spray.

In your area (Pennsylvania) apply dormant oil plus ethion in late March or early April, and spray malathion, Sevin or cygon in early June.

Check the labels and the local extension service for detailed instructions.

Q: *This spring our apple orchard was severely infected with what I was told was fire blight. I don't remember having this problem before. Could you tell me how to control it?*

A: Fire blight is a bacterial disease and was more prevalent this year than in previous years in your

Continues on page 46

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area (Midwest). The bacteria overwinter in the stem cankers and are spread in the spring by wind and by bees and other insects which carry the organism from tree to tree while gathering nectar from the blossoms.

Prune out the infected branches below the cankers before spring, and spray with the antibiotic Agri-Strep at blossom time. Zineb is also recommended in some states. Always follow label recommendations. Heavy fertilization has been reported to increase susceptibility to fire blight.

Q: *If dandelions are sprayed with 2,4-D at the time of seeding, will the seed be sterilized? Also, would 2,4-D in combination with dicamba and MCPP be effective in this way?*

A: The 2,4-D will not injure the seed itself. When the seeds germinate, sufficient 2,4-D will be present near the soil surface to severely injure or kill the seedlings. Application of 2,4-D should be delayed for six weeks after seeding or until the lawn has been mowed twice.

Q: *Is it better to water turf in day or night? Exactly how much damage would be caused by watering at the wrong time?*

A: Irrigation during the early morning or evening hours allows for the most efficient utilization of water by turfgrass plants since less water is lost through sun-induced evaporation. Evening watering, however, can increase the potential for disease by providing the moist conditions necessary for the growth and development of fungus throughout the night.

Contrary to popular opinion, watering turfgrass in the afternoon while the sun is shining does not cause scorch except under unusual circumstances.

Water or syringing turfgrass at midday, during periods of extreme heat, to take advantage of the cooling effect of evaporating water, is a common practice on some golf courses.

Q: *Can Di-Syston be used for leaf miner control on birch trees when apple trees are nearby?*

A: The proximity of the fruit tree to the birch tree and the chance of intermingling of the root systems of the different kinds of trees would determine whether Di-Syston should be used. If there is any chance of intermingling of roots, Di-Syston should not be applied.

The Di-Syston label specificially states that it should not be applied to trees that will bear fruit during the current crop year. Another systemic, Dimethoate (Cygon), is labeled for birch leaf miner control and can be used on apple trees up to 28 days prior to harvest.

Q: *During the hot summer months, sometimes as early as June 15, some lawns will dry and go dormant. Is it possible, through watering and other cultural practices, to rejuvenate this turf during the following summer months?*

A: Cool season turfgrass plants typically turn brown in the summer unless supplemental water is applied during periods of heat and/or drought. However, unless the crown area is injured, the plant usually is not permanently affected. The crown is the only truly perennial part of a turfgrass plant; the tillers and roots undergo constant renewal as the oldest tissues die and are replaced.

Increasing the cutting height during the summer months will help protect the crown from excessive heat and drying. Unless prolonged drought has occurred, the turfgrass should revive with the cool temperatures and increased moisture in the fall.

If not, you should inspect the turfgrass for some other problem such as insects or disease.

Reader comment — *In response to the June 1979 "Vegetative Management" column, one of the readers has suggested a means of eliminating the problem of "messy" crabapples. She suggests that you consider planting 'Spring Snow' which has beautiful blossoms but no fruit. She indicated that it was rated in the best category in the University of Minnesota Landscape Arboretum. Check with your local cooperative extension service or a reputable nurseryman for its evaluation in your area. — Thanks!*

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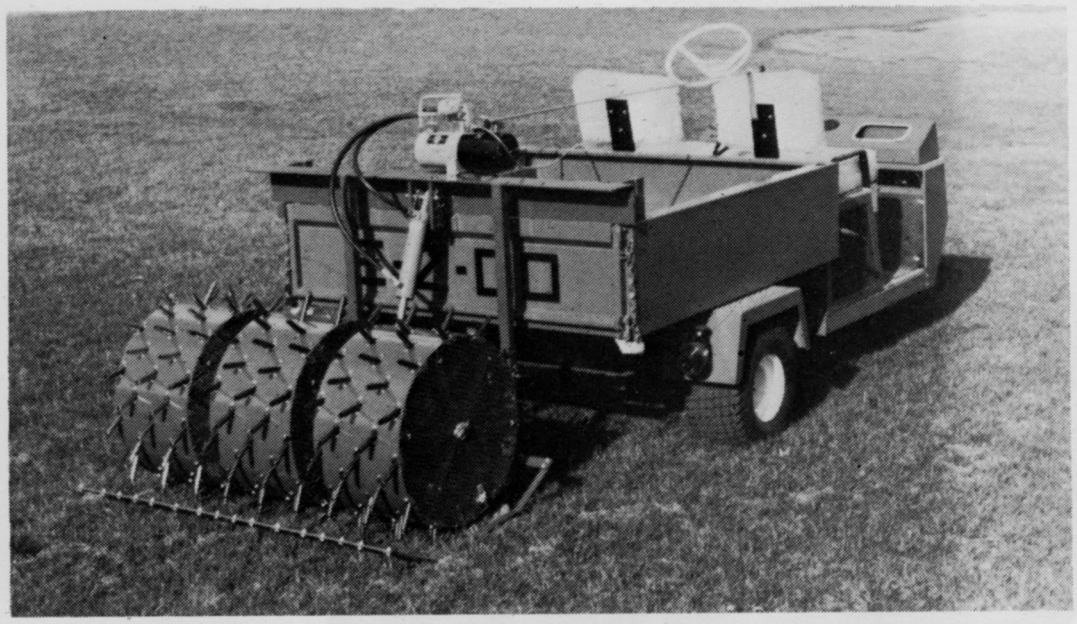

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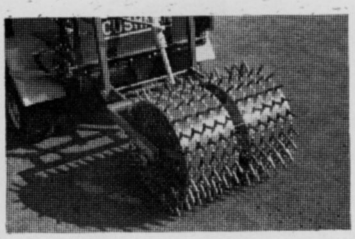

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Dedoes Industries, Inc.

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We'll suit you to a Tee.

It was a bold decision when the Orange Bowl went from artificial turf back to natural. And this time they weren't taking any chances. They wanted softer landings and surer footing for the players. They needed lush, uniform, healthy turf that could take it.

They came to Safe-T-Lawn for their irrigation system.

Fortunately for us, the Orange Bowl people knew the pitfalls and problems of keeping turf in prime condition in their subtropic clime. They knew accepted standard sprinkling systems couldn't hold the line. They needed innovators.

They drafted Safe-T-Lawn.

You see, Safe-T-Lawn pioneered plastic pop-ups. We started and have stayed way ahead of the field in efficient, trouble-free, economical sprinklers. In fact, we're so positive of our prowess, our ball-drive units carry an exclusive 10 year replacement warranty.

When you're into turf, be it for National League, National Open or divot-prone Sunday duffers – look into Safe-T-Lawn. We've saved a lot of faces.

the GREEN WORLD of S-T-L

Safe-T-Lawn, Inc.

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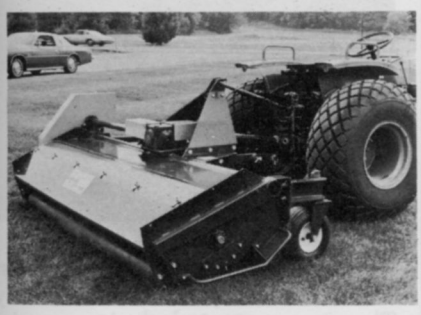
WT&T PRODUCTS

New Mower Models

Commercial trim mowers by Lawn-Boy were introduced in August for professional lawn maintenance and landscape contractors, rental services, and municipal use. All three of the new models have 6-in. front and 8-in. rear steel wheels with greasable ball bearings; full interface hubs; heavy gauge handles and handle brackets; five quart fuel tank; and a die cast aluminum carburetor equipped with heavy duty air filter. The models also feature fingertip height adjustment; heavy, die cast aluminum deck, and solid state ignition. Two push and one self-propelled models are available which cut a 21-in. swath.

Circle 701 on free information card



Two new sized models of the Lawn Genie Pick-Up flail mower have been introduced by the Mathews Company. The new 48-in. and 88-in. models mow, sweep, mulch, chop, shred and thatch for complete lawn care. The 48-in. is available in three styles: a 16 hp Briggs & Stratton engine driven pull-type; a PTO-driven pull-type for a 15 hp tractor; and a PTO-driven lift-type with Category 1, three-point hitch for trac-

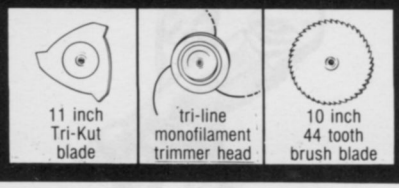
HOFFCO™ Whizz Witch

A tough 85cc engine stands behind trimming head and 2 cutting blades.

- Tri-line, heavy duty monofilament trimmer head.
- 11″ Tri-Kut weed blade cuts heavy weeds, briars and brambles.
- 10″ 44 tooth brush blade (optional) cuts 3″ diameter saplings at ground level.

BRUSHCUTTER/POWER SCYTHE

Offers the same equipment package, but the trimmer head is optional.



The 2 cycle, 22.5cc engine, can be operated in any position. Total wgt. 13½ lbs.

1. Monofilament trimmer head
2. 8″ Tri-Kut blade
3. (optional) 8″–44 tooth brush blade

HOFFCO Brushette T.M.

Special merchandising displays available.

CHAIN SAW ATTACHMENT

Also attaches easily to most lightweight chain saws. • 8″ Tri-Kut weed blade • 8″ 44 tooth brush blade • optional monofilament trimmer • Use for overhead tree and brush trimming.

HOFFCO'S "HUMAN ENGINEERING"

The carrying harness and handlebars with anti-vibration grips can be adjusted for the comfort, balance and separates operator from cutting and trimming heads.

HOFFCO genie T.M.

"Hoffie"

HOFFCO INC.

WTT-1079
358 N.W. "F" Street
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HOFFCO PH 977-A

A true ONE MAN post hole drill Full wrap-around handles *deadman throttle control and kill switch on handle *Comet auto *centrifugal clutch *18.1 power ratio 2 to 8″ earth bits *8″ ice bit available. Drill to 30″ (4′ with extension accessory).

HOFFCO PH 1100-A 2-man

4-cycle engine. Special throttle control and auto. centrifugal clutch.

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___ **P10-A**—85cc, Power scythe/Brushcutter*
___ **Whizz witch**—85cc*
___ **Genie**—22.5cc*
___ **Aladdin**—22.5cc, monofilament trimmer
___ **GT-14**—14cc, monofilament trimmer
___ **Brushette**—CSA*
___ **Trimette**—CSA-monofilament trimmer
___ **Post Hole Drills**—one and two man units
___ **Whizz winch**—Pulls loads to 1,000 lbs.

*Combination Unit—Power Scythe • Brushcutter • Monofilament

NAME

ADDRESS

CITY STATE/ZIP

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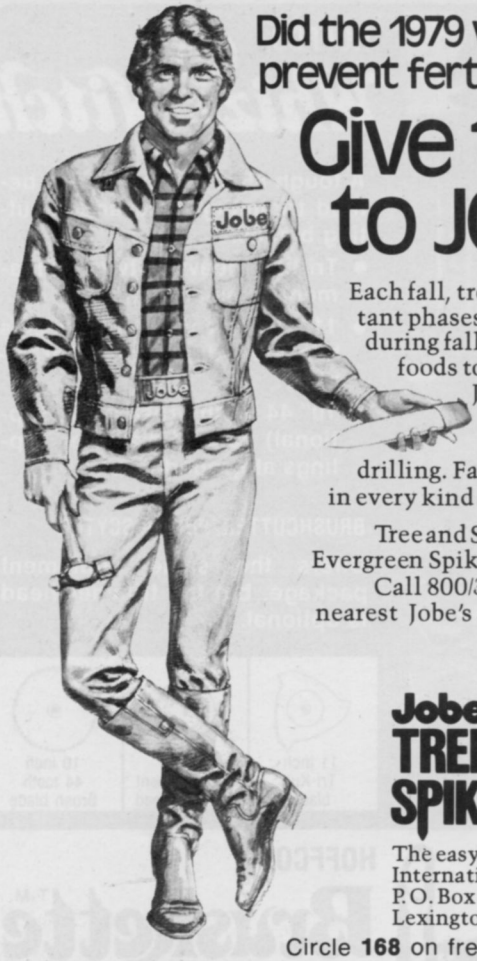

Did the 1979 wet spring prevent fertilizing your trees?

Give the job to JOBE.

Each fall, trees start one of the most important phases in their life cycle. Roots grow during fall and early winter, absorbing plant foods to use for early spring growth. Jobe's Tree and Shrub Spikes feed trees in about one fourth the time, at less than half the cost of drilling. Fast ... efficient ... less costly ... in every kind of soil.

Tree and Shrub Spikes analyze 16-8-8; Evergreen Spikes 12-6-8. Fruit Tree Spikes 5-15-15. Call 800/354-9360 for the name of your nearest Jobe's distributor.

Jobe's... TREE & SHRUB SPIKES

The easy method for professional tree care.
International Spike, Inc.
P.O. Box 1750
Lexington, KY 40593

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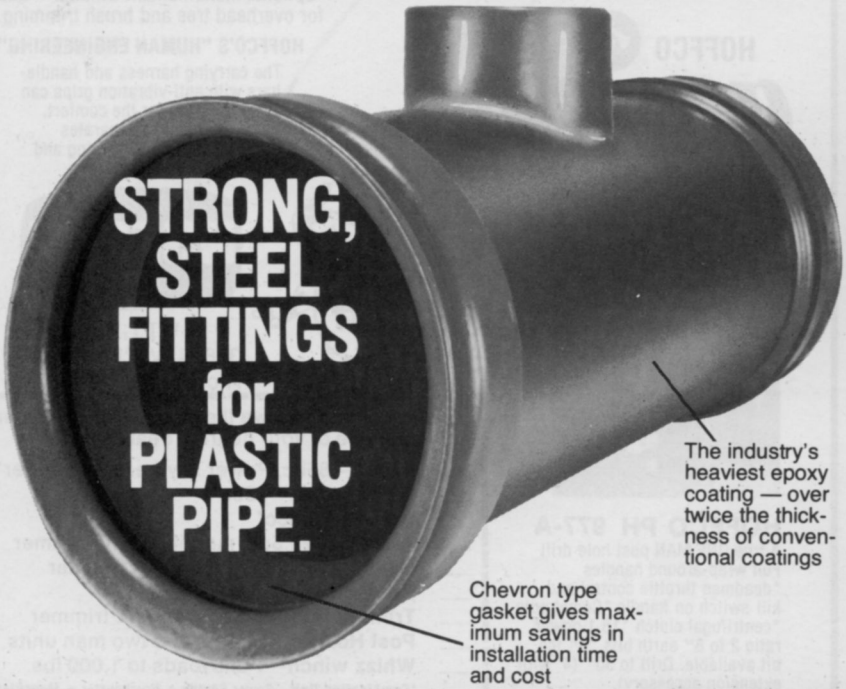
When a turf system needs...



McDowell EPOXI-LOKT®

McDowell Manufacturing Company, An Alco Standard Company, DuBois, PA 15801 • 814/371-6550

Circle **157** on free information card

tor 13-20 hp. Each model has a 22-bushel metal hopper for clippings. The 88-in. model is designed as a mower only and does not have a hopper. Mathews says the mower is a strong performer on roadsides, parks or large acreages.

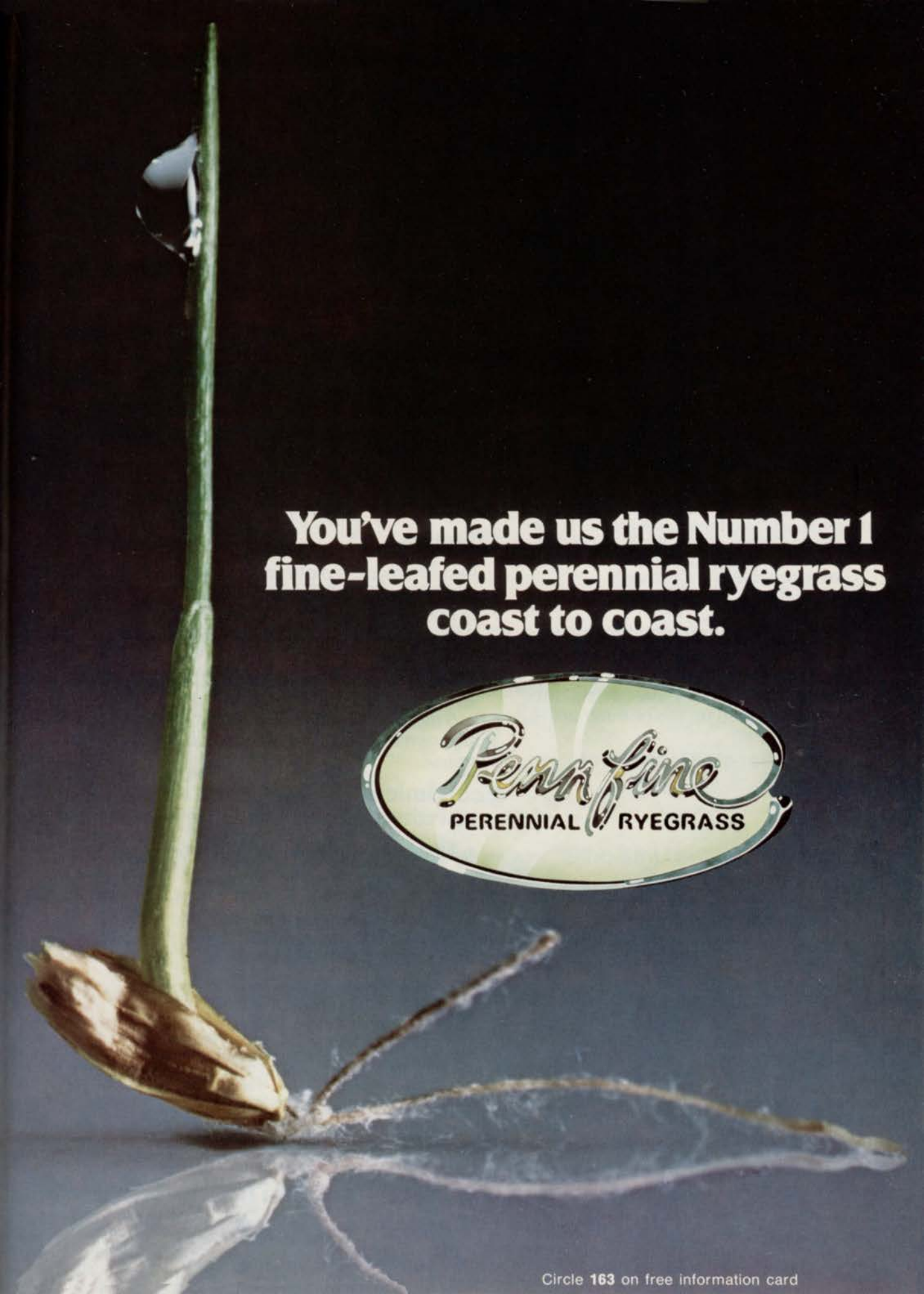
Circle 702 on free information card

Fifteen-ft., all-hydraulic rotary mower has been designed by Howard Price Turf Equipment for large turf mowing. Powered by a 68 hp, four-cylinder Ford water-cooled engine, the mower has three cutting units which may be operated individually or in any combination. The Hydro-Power 180 has rear power steering, two speed ranges up to 18 mph, and hydraulic transmission. With a cab, heater and 66-in. snow blower, the mower becomes a year-round machine.

Circle 703 on free information card

New mid-size mower by Excel offers maneuverability in a 60-in. rotary. The new patented design mowing deck features a system of built-in adjustments that permit the mower to mulch, discharge to the rear or side or into an optional catcher/compactor. The mode of discharge is easily and quickly changed. The mower deck and engine are mounted on a single floating deck to maintain in-line power. The mower has a 16 hp Briggs & Stratton twin cylinder engine.

Circle 704 on free information card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fine-leafed perennial ryegrass
coast to coast.
Pennfine
PERENNIAL RYEGRASS
Circle 163 on free information card

CIL Sulphur Coated Urea

The Number One Controlled Release Nitrogen Fertilizer

CIL Sulphur Coated Urea is being tested against other controlled release nitrogen fertilizers at 14 different universities in the U.S. and Canada. Photo above shows one of the test sites with CIL Sulphur Coated Urea treated grass in foreground.

Efficient Effective Economical

Efficient

- Release of nitrogen is controlled by moisture. Temperature and bacterial activity are not important factors. Excess moisture however, **does not** markedly speed up the release of the nitrogen.
- Soil ph does not alter pattern of release.

Background photo:
CIL Sulphur Coated Urea prills actual size.

Effective

- Tested on grass plots under scientifically controlled conditions, CIL Sulphur Coated Urea outperformed all conventional slow release nitrogen fertilizers tested, in both the appearance and growth of grass obtained.
- CIL Sulphur Coated Urea releases nutrients as soon as it is applied and continues to do so evenly over 4 to 5 months. Result is more complete utilization of nitrogen applied, and no build up of nitrates in the soil.

Economical

- Low cost per unit of controlled release nitrogen.
- Available in bulk **or** in 55 lb plastic bags.

Please send me more information about **CIL Sulphur Coated Urea.** ☐
Please advise who can supply me with blended products made with **CIL Sulphur Coated Urea.** ☐

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N6A 4L6 Telephone: (519) 672-9220

A dependable source of supply of quality products, in commercial quantities, from Canada's largest chemical company

C·I·L

Canadian Industries Limited

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Park *from page 18*

ties, such as restaurants and lodging; plus sports, such as golf, boating, and tennis, are watched and carefully maintained. "We have enough things that produce money to offset what doesn't make it—our gardens, displays, and greenhouses," Dalby says.

Dalby is also a member of the board of regents for Maintenance-Management School, a two-week course held every winter at Oglebay Park. Conducted by North Carolina State University in cooperation with the National Recreation and Park Association, the course deals in all aspects of park maintenance from planning and organizing to supervising personnel.

A seminar every year at the Great Lakes Park Training Institute in Angola, Indiana, also deals with park maintenance subjects. Topics concern whatever is pertinent at the time, and have recently included better use of growth retardants, mowing, and better use of manpower an materials. This five-day program is conducted by the Department of Recreation and Park Administration at Indiana University.

For more information on the Park and Recreation Maintenance Management School, contact Alice Strickland, North Carolina State University, Div. of Continuing Education, Post Office Box 5125, Raleigh, NC 27650. 919/737-2261.

For additional information on the Great Lakes Park Training Institute, contact Dr. Richard Lawson, Indiana University, HPER bldg. Room 133, Bloomington, IN 47405. 812/337-4711. **WTT**

A Great New LABOR SAVER

ROSS TreeGARD™

Ross TreeGARD is a snap-on plastic tube that expands to fit any young tree. Snaps-off & on in seconds for bark inspection.

Protects trees from:

- **Sun scald**
- **Rabbits and other rodents**
- **Mower bruises**
- **No taping, tying or gluing**
- **Allows proper ventilation**

If your distributor doesn't stock ROSS TreeGARD™ order direct, freight pre-paid!

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Gentlemen please ship me:

#1687 24" TreeGARD 400/case		$ _____
1-5 cases: _____	@ $169.50/case	$ _____
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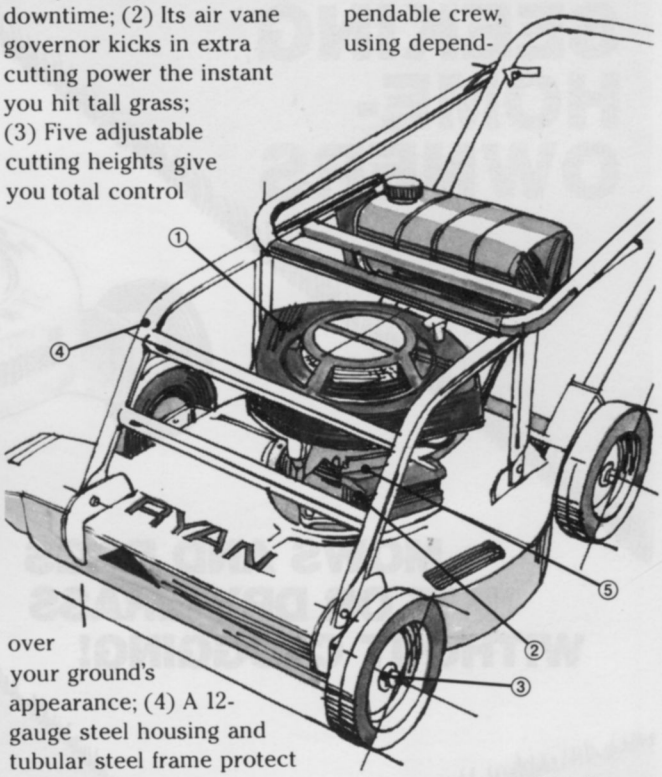
There just isn't another mower built like Ryan's.

After just a year in the field, the Ryan Commercial Mower has attracted a lot of attention. It just may be the toughest high-performance mower you've ever seen. Here's why.

(1) Its simple 2-cycle engine has fewer moving parts, so you get a longer life cycle of power with less downtime; (2) Its air vane governor kicks in extra cutting power the instant you hit tall grass; (3) Five adjustable cutting heights give you total control over your ground's appearance; (4) A 12-gauge steel housing and tubular steel frame protect the engine as you cut around shrubs and fence; (5) There's a fuel-efficient fixed-jet carburetor.

And Ryan's modular parts replacement system helps you save on repairs. Instead of rebuilding the engine parts you can replace the entire component. Economically. And fast.

With operating costs getting higher all the time, you need to get the most out of every hour's wage you pay. That takes a dependable crew, using dependable equipment. Like the Ryan Commercial Mower.



Ask your Ryan dealer for a demonstration, and see for yourself how we build a mower. 80-CUR-3

The Commercial Mower

RYAN® TURF-CARE EQUIPMENT

Day-In, Day-Out Performance.

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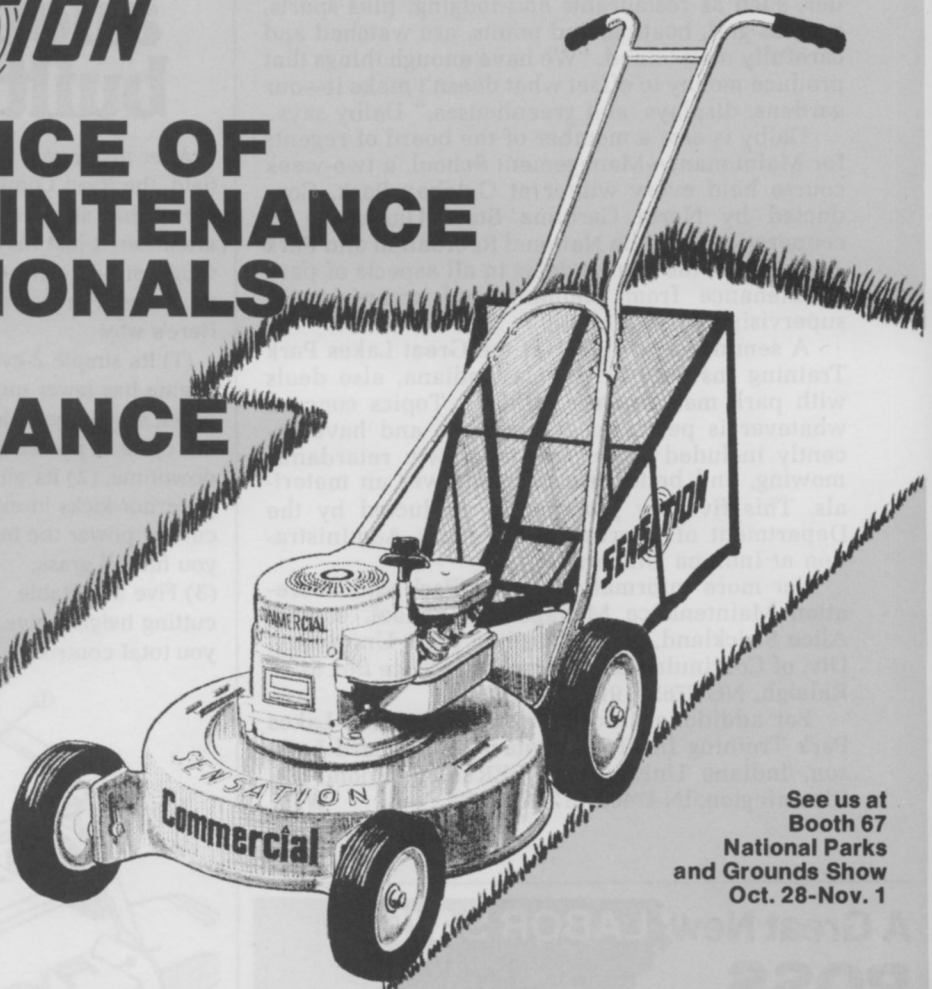
SENSATION®

No. 1 CHOICE OF LAWN MAINTENANCE PROFESSIONALS AND PERFORMANCE SEEKING HOME-OWNERS



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Booth 67
National Parks
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Oct. 28-Nov. 1

MOWS AND BAGS WET OR DRY GRASS WITHOUT CLOGGING!

Seeking Performance...Power... Durability? GET A SENSATION!

With exclusive valve rotator, replaceable wheel bearings, mag-aluminum cast deck, patented air lift blade with balanced fly wheel for bagging wet grass without clogging...SENSATION more than ever the No. 1 Choice.

No. 1 features that make the No. 1 difference for you!

THE HIGH-WHEELER MAKES SHORT WORK OF TALL GRASSES AND WEEDS...

Put power into your big jobs with the 24" self-propelled High-Wheeler. 5 HP Briggs & Stratton engine and geared transmission with 3-speed forward and reverse makes it ideal for toughest weeds & grasses.

WRITE TODAY FOR MORE INFORMATION ON SENSATION MOWERS...

THE SENSATION CORPORATION 3601 North 16th Street • Omaha, Nebraska 68110

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EVENTS

The current issue of WEEDS TREES & TURF carries meeting dates beginning with the following month. To insure that your event is included, please forward it, 90 days in advance, to: WEEDS TREES & TURF Events, 9800 Detroit Ave., Cleveland, OH 44102.

National Institute on Park and Grounds Management 9th Annual Conference, Opryland Hotel, Nashville, TN, **October 28-November 2.** Contact National Institute, Box 1936, Appleton, WI 54913. 414/733-2301.

Effective Communications Seminar by the Associated Landscape Contractors of America and the California Landscape Contractors Association, Riviera Hotel, Palm Springs, CA. **November 5-7.** Contact ALCA, 1750 Old Meadow Rd., McLean, VA 22102, 703/821-8611.

Maintenance Symposium by the Associated Landscape Contractors of America, Red Carpet Inn, Milwaukee, WI. **November 6-9.** Contact ALCA, 1750 Old Meadow Rd., McLean, VA 22102, 703/821-8611.

Ninth Annual Colorado Crop Protection Institute, Colorado State University Campus, Fort Collins. **November 7-8.** Contact Bert Bohmont, Agricultural Chemicals Coordinator, Cooperative Extension Service, Colorado State University, Fort Collins, CO 80523.

Washington State Weed Association 29th Annual Conference, Town Plaza Motor Inn, Yakima, WA, **Nov. 7-9.** Contact the Weed Science Society of America, 113 North Neil St. 311 Illinois Bldg., Champaign, IL 61820. 217/356-3182.

Missouri Lawn and Turf Conference, Ramada Inn, Columbia. **November 7-9.** Contact Dr. John Dunn, Horticulture Department, University of Missouri, Columbia, MO 65211, 314-882-7838.

International Society of Arboriculture (New York Chapter), Holiday Inn (downtown), Syracuse, NY, **November 11-13.** Contact Ervin C. Bundy, executive director, P.O. Box 71 — 5 Lincoln Square, Urbana, IL 61801. 217/328-2032.

North Carolina Recreation & Park Society Annual Conference, Civic Center, Raleigh, NC. **Nov. 11-14.** Contact William J. Scott, President NCRPS, PO Box 1668, Laurinburg, NC 28352.

Planning and Budgeting Seminar by the Associated Landscape Contractors of America, Ramada O'Hare Inn, Chicago. **November 15-16.** Contact ALCA, 1750 Old Meadow

Continues on page 56

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From inside this plant comes one of the most complete lines of Sod and Nursery Equipment available today. Search around and compare...but before you buy anything...CHECK WITH PRINCETON.

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- **Fully Automatic Sod Harvester**
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955 W. Walnut St.
Canal Winchester, Ohio 43110
614/837-9096

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Rd., McLean, VA 22102, 703/821-8611.

Southern Turfgrass Conference, Little Rock Convention Center and Camelot Inn, Little Rock, AR, **November 18-20.** Contact Euel Coats, Southern Turfgrass Association, Drawer CP, Mississippi State, MS 39762. 601/325-3138.

Appropriate Horticulture II: Planting Out workshop, Vacation Village, San Diego, CA, **November 19.** Contact University Extension, University of California, Davis, CA 95616. 916/752-0880.

New Jersey Turfgrass Expo '79, Cherry Hill Hyatt House, Cherry Hill, NJ, **November 26-29.** Contact Dr. Henry W. Indyk, General Chairman, Soils & Crops Department, P.O. Box 231-Cook College-Rutgers Univ., New Brunswick, NJ 08903, 201/932-9453.

Center Pivot Irrigation course, Lincoln, NE, **Nov. 27-29.** Contact the Irrigation Association, 13975 Connecticut Ave., Silver Spring, MD 20906. 301/871-8188.

Design/Build Symposium, Kansas City Marriott. **November 28-30.** Contact ALCA, 1750 Old Meadow Rd., McLean, VA 22102, 703/821-8611.

Tidewater Shade Tree Conference, Norfolk Botanical Gardens, Norfolk, VA, **November 29.** Contact Roger R. Huff, city arborist, Municipal Center, Virginia Beach, VA 23456.

International Society of Arboriculture (Kentucky Chapter), Holiday Inn South, Fern Valley Road, Louisville, KY, **December 3-4.** Contact Ervin C. Bundy, P.O. Box 71 — 5 Lincoln Square, Urbana, IL 61801. 217/328-2032.

Symposium on Surface Mining Hydrology, Sedimentology, and Reclamation, Hyatt Regency Hotel, Lexington, KY. **December 4-7.** Contact Stanley Carpenter, University of Kentucky, College of Agriculture, Department of Forestry, 205 Thomas Poe Cooper Bldg., Lexington, KY 40546, 606/258-4608.

Ohio Turfgrass Convention and Show, Cincinnati Convention Center, Cincinnati. **December 4-6.** Contact The Ohio Turfgrass Foundation, 1827 Neil Avenue, Columbus, OH 43210, 614/422-2592.

Planning and Budgeting Seminar by the Associated Landscape Contractors of America, North Dallas Marriott. **December 4-5,** and Hilton Inn Airport, Denver, **December 6-7.** Contact ALCA, 1750 Old Meadow Rd., McLean, VA 22102, 703/821-8611.

Drainage Contractor Workshop, Indianapolis, IN. **December 10-11.** Contact Julian Bayley, P.O. Box 39, Hensall, Ontario, Canada, NOM 1X0, 519/262-3000.

Continues on page 61

INSTANT SHADE!

TS-66T: Ball diameter, 66 in.; ball depth, 48 in.; Maximum tree diameter, 6 in. tree trunk (approx.) Ball weight, 3168 lbs. (approx.) *Available as a truck-mounted unit only.*

TS-30: Ball diameter, 30 in.; Ball depth, 26 in.; Maximum tree diameter, 3 in. tree trunk (approx.) Ball weight, 355 lbs. (approx.) *Trailer or tractor-mounted units. Flat-bottom tree spade option.*

TS-20: Ball diameter, 20 in.; Ball diameter, 18 in.; Maximum tree diameter, 2 in. tree trunk (approx.) Ball weight, 109 lbs. (approx.) *Tractor-mounted unit, or in combination with Vermeer T-218 Trencher.*

NEW! TS-44M . . . far greater maneuverability than ever before. No more guesswork. The TS-44M hydraulically extends (up to 21 in.) and shifts (up to 15½ in. left and right of center). It's fast, accurate. Cuts set-up time to a fraction.

YOU CAN DIG IT WITH VERMEER

Better yet, "instant beauty!" Nothing improves landscape more than trees and shrubs. And no one creates it as quickly and efficiently as The Diggin' Dutchman and his patented Vermeer Tree Spades. What about efficiency? Hydraulically-operated steel spades handle the entire job quickly and gently. No coffee breaks. No lunch hours. No overtime wages. It's a one-man operation! Choose from six quality built machines . . . and transplant or "package" small shrubs and trees — up to 8 inches in diameter — in minutes. Ask your Vermeer dealer for a demonstration today.

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No mixing, no burning, no hassle.

Introducing FOLIAN®.. the easy-to-use liquid fertilizer that's safe and effective on any kind of turf.

FOLIAN is a complete fertilizer. Its special formulation of N-P-K, sulfur and iron gets nutrients directly into grass tissue. And FOLIAN will not cause tip burn when used as directed.

Convenient to use

FOLIAN is the only turf-builder you'll ever need. It saves you time because there's no mixing or agitation required before using FOLIAN. And FOLIAN can be applied in more concentrated form than most other liquids. As a result, you can service more lawns per truckload with fewer wasted man-hours.

A clear solution of the highest quality, FOLIAN won't settle out in your tanks. It's compatible with most pesticides, too.

Greens lawns fast

Because of its patented formulation and foliar activity, FOLIAN greens up turf quickly—faster than dry fertilizers or suspensions. And at the recommended rates, FOLIAN supplies enough residual fertilizer in the soil to keep grass green and healthy for many weeks.

Good for your business

Your customers will love the results FOLIAN gives. And you'll appreciate FOLIAN's convenience.

Best of all, FOLIAN makes your lawn care service more valuable. It means repeat business from satisfied customers and greater confidence in you.

Give FOLIAN a try and discover how it can mean more green for both of you.

To find out more about how to get started using FOLIAN, call toll-free 800-228-2178 Omaha, Neb., 800-446-1841/800-446-1845 Hopewell, Va. or write Allied Chemical Corporation, Dept. AG, Box 2120, Houston, TX 77001.

Allied Chemical
Plant Foods

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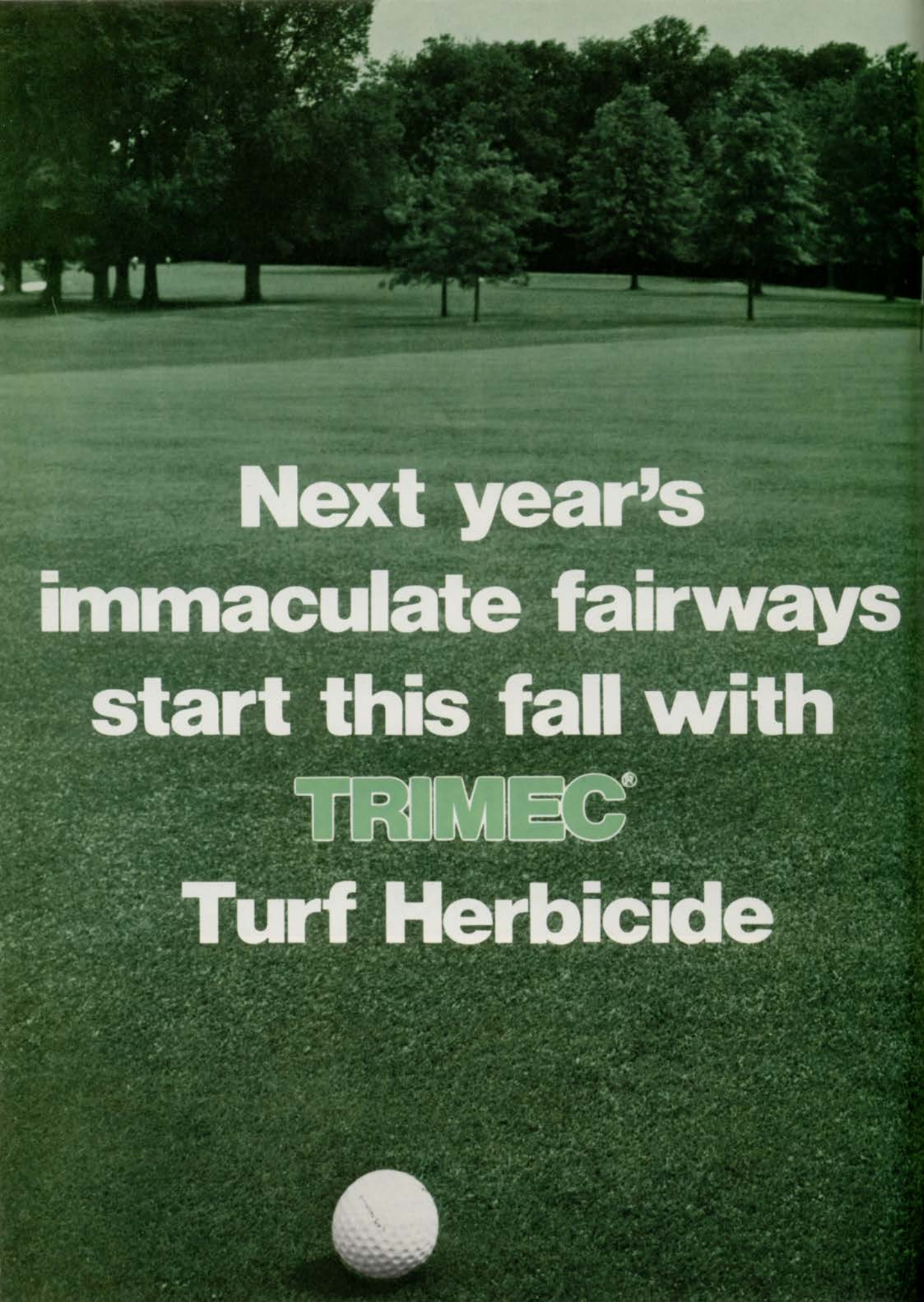
FOLIAN® complete liquid fertilizer.


Next year's
immaculate fairways
start this fall with
TRIMEC®
Turf Herbicide

TRIMEC®: How this pioneer of fall dandelion control improves your turf management throughout the year.

Immaculate turf, balanced workloads, peak efficiency begin with your fall use of Trimec Turf Herbicide.

There's no doubt that your life as a turf manager would be a lot easier if you could wipe out the dandelion crop in late fall. And you know why.

It's because those dandelions, surviving winter, put a heavy burden on your early spring — your busiest season. Before Trimec, you couldn't avoid an early February/March spray. But today, with Trimec, you can. Because Trimec is different.

One major difference is that Trimec is effective in temperatures as low as 50° F. This permits dandelion control from mid-October through late November, bringing immediate and year-long advantages.

One treatment replaces two

In the fall, for example, your sprays will encounter less wind, rain and mud. Ornamentals, going dormant (without spring's emerging tender buds and foliage) are less prone to drift damage. Seedling grass is mature enough to resist herbicide damage. And, with mowing finished, you'll have more time for spraying.

But the really good news happens *next spring,* when you can delay your first spray from four to six weeks. The reason: except for a few stragglers, you'll have no dandelions. And you'll have more time for other urgent work.

Now, your one spring spray does the work of *two* conventional sprays. It kills the few dandelions missed last fall, and the late-sprouters as well. Plus, it destroys the other weeds coming on — the plantain, sorrel, chickweed and thistle, virtually all broadleaf species. Consider the rewards of working *with* nature, not against it.

First, by shifting the early spring workload to a more accommodating time, you've become more efficient. The following seasons can be more productive. And you won't have the embarrassment of early-spring dandelions.

What's more, you'll have gained new cost-efficiency. *Trimec's cost-per-acre of weed-free turf is unmatched by any other herbicide,* a fact confirmed by massive field and laboratory experience.

The Trimec formulation makes it possible

Trimec's active ingredients are ordinary chemicals that react in extraordinary ways, because the patented formulation of 2,4-D, MCPP and Dicamba are synergistic. Each chemical interacts with the others in a multiplication of power far greater than the sum of the components separately. This gives Trimec massive power with a light chemical concentration that's ecologically sound and friendly to the environment.

Trimec's gentle, thorough action minimizes the risks of damage from root absorption and spray drift. It is biodegradable and precisely factory-formulated — the only herbicide that teams matchless cost efficiency with all these additional benefits:

- *Controls the widest range of broadleaf weeds*
- *Gets hard-to-kill species with one treatment*
- *Wide safety margin for lawn grasses and ornamentals*
- *Minimum hazard from root absorption*
- *No vapor action after application*
- *Effective weed control in a wide temperature range*
- *Unique formula overcomes water-hardness problems*
- *Treated areas may be reseeded within two weeks*
- *Non-flammable and non-corrosive in use*
- *Stable several years above 32° F.*
- *Biodegradable; friendly to the environment*

A test is convincing

We urge you to use Trimec for dandelion control this very fall. You'll be pleasantly surprised. At least test it on a single fairway, and see what happens. You have nothing to lose; everything to gain.

Your Gordon Distributor stocks Trimec Broadleaf Herbicide; Trimec Bentgrass Formula for 2,4-D-sensitive grasses; plus a whole family of superior turf products and companion services. Ask for his help; give him a call, today.

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ONE PRODUCT FORE® TURF & ORNAMENTALS

DISEASES OF TURF
Algae, Copper Spot,
Dollar Spot (Sclerotinia),
Fusarium Blight,
Fusarium Snow Mold,
Helminthosporium Melting Out,
Pythium, Red Thread, Rhizoctonia
Brown Patch, Rust, Slime Mold.

DISEASES OF ORNAMENTALS

Carnation	Leaf Spot
Crabapple, ornamental	Scab, Cedar-apple Rust
Dahlia, Lily, Tulip	Blight (*Botrytis* spp.)
Holly	Purple Spot
Hollyhock	Leaf Spot, Anthracnose, Rust
Honeysuckle	Blight (*Herpobasidium* spp.)
Iris	Leaf Spot
Pansy	Anthracnose
Rose	Black Spot
Snapdragon	Rust
Zinnia	Leaf Blight
Azalea, Camellia, Rhododendron	Petal Blight
Chrysanthemum	Petal Spot (*Botrytis* spp.)
Flowering dogwood	Anthracnose
Gladiolus	Leaf and Flower Spot (*Curvularia* and *Botrytis* spp.)
Pachysandra	Blight (*Volutella* spp.)
Peony	Blight (*Phytophthora* and *Botrytis* spp.)

Controlling diseases of turf and ornamentals requires a regular, preventive spray schedule rather than a curative one. A program of FORE fungicide gives you effective protection against 10 unsightly turf diseases plus algae and control of 22 damaging ornamental diseases. FORE is a broad-spectrum fungicide that helps maintain healthy turf and ornamental plantings. It is highly concentrated, making it an economical product, mixes readily with water, and stays in suspension with a minimum of agitation. Also, FORE is compatible with most other pesticides.

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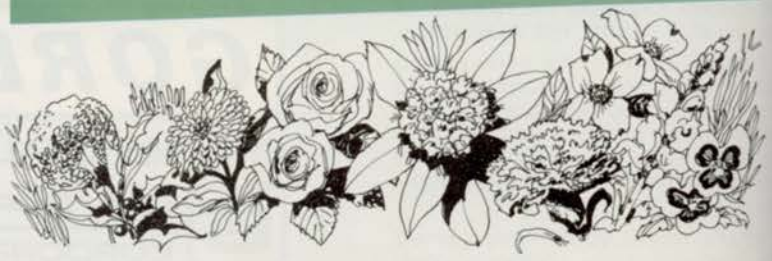

Read the label carefully and use only as directed.

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Events *from page 56*

National Agricultural Aviation Association Convention & Exposition, Las Vegas, NV, **Dec. 10-13.** Contact Sue Shaffer, registration chairman, suite 459—National Press Building, Washington, D.C. 20045.

Western Association of Nurserymen 90th Annual Trade Show and Meeting, Hilton Plaza Inn, Kansas City, MO, **January 6-8.** Contact Ed Gray, Executive Secretary, 2215 Forest Lane, Kansas City, KS 66106, 913/236-5203.

Maryland Turfgrass '80, Baltimore Convention Center, Baltimore, MD, **January 6-9.** Contact Dr. David J. Wehner, Dept. of Agronomy, University of Maryland, College Park, MD 20742, 301/454-3715.

Northeastern Weed Science Society 34th Annual Meeting, Grossinger Hotel and Country Club, Grossinger, NY, **January 8-10.** Contact J. V. Parochetti, USDA SEA-Extension, Room 5535 South Bldg., Washington, DC 20250.

Southern Weed Science Society Annual Meeting, Arlington Hotel, Hot Springs, AR, **January 15-17.** Contact Jerry B. Weber, Program Chairman, Southern Weed Science Society, North Carolina State University, Weed Science Center, 3123 Ligon Street, Raleigh, NC 27607.

Mid-Am Trade Show, Rosemont, IL, **Jan. 20-23.** Contact Mid-Am Trade Show, 4300-L Lincoln Ave., Rolling Meadows, IL 60008. 312/359-8160.

Pumps and Pump Controls course, Denver, CO, **Jan. 22-24.** Contact the Irrigation Association, 13975 Connecticut Ave., Silver Spring, MD 20906. 301/871-8188.

Landscape Ontario Annual Congress & Trade Show, Sheraton Centre Hotel, Toronto, **January 22-24.** Contact Bob Cheesman, Landscape Ontario Show Manager, 416/276-6177 or Landscape Ontario Congress, 3034 Palstan Road, Suite 103, Mississauga, Ontario L4Y 2Z6.

Mid-Atlantic Agricultural Chemical & Equipment Trade Show, Richmond Arena, Richmond, VA, **January 23-24.** Contact N. D. Thomsen, publicity chairman, Virginia Pesticide Assn., Rt. 1, Box 126, Providence Forge, VA 23140.

Annual Turf & Landscape Conference, Tappan Zee Inn, Mountain View Avenue, Nyack, NY, **January 30.** Contact Frank Claps, 136 Laurel Avenue, Larchmont, NY 10538. 914/834-6846.

ALCA Annual Meeting and Trade Exhibits, Town and Country Hotel, San Diego, CA. **February 3-8, 1980.** Contact Associated Landscape Contractors of America, 1750 Old Meadow Rd., McLean, VA 22102, 703/821-8611.

Wastewater Irrigation course, Denver, CO, **Feb. 5-7.** Contact the Irrigation Association, 13975 Connecticut Ave., Silver Spring, MD 20906. 301/871-8188.

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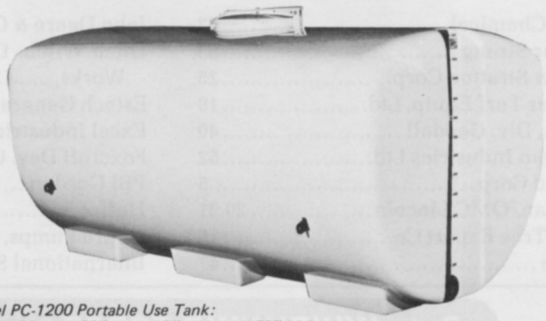

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